
The Municipality of the District of St. Mary's have received the final report from Jozsa Management & Economics for the study on local economic impacts that may be possible as a result of the proposed gold mine at Cochrane Hill. The Municipality engaged the consultant as an arm's length third party to complete the analysis. The Report was intended to be used in conjunction with the Environmental Impact Statement by the proponent (Atlantic Gold), the Canadian Environmental Assessment Agency (CEAA) environmental approval documents and the Province of Nova Scotia Mining Permitting documents to assist Council in developing a position on the proposed mine.

The Municipality acknowledges that the analysis is based on the original project description for the proposed mine as submitted by Atlantic Gold to CEAA in September 2018 to initiate the environmental approval process. Changing factors in the interim could limit the extent to which the consultant's economic modeling can be applied without more detailed information on the project.

Economic Impact Analysis of the Proposed Cochrane Hill Gold Mine

December 2019

Final Report

Prepared For:

Municipality of the District of St. Mary's

Submitted By:

JOZSA MANAGEMENT & ECONOMICS

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DECEMBER 2019

December 2019

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Re: Economic Impact Analysis of the Proposed Cochrane Hill Gold Mine

Mr. MacDonald:

The attached is our final report describing the social and economic impacts of the proposed Cochrane Hill Gold Mine on the Municipality of the District of St. Mary's.

As you know, the proponent of the gold mine did not acknowledge or respond to any elements of our information request. Our analysis had to rely on the very limited quantitative information contained in the proponent's Project Description Summary of September 2018 and corporate reports describing company-wide gold mining financial indicators (e.g. the company-wide All In Sustaining Cost (AISC) per ounce of gold produced).

Notwithstanding, the findings are sufficiently accurate to help the Municipality establish a position regarding the development of the mine.

Sincerely;

JOZSA MANAGEMENT & ECONOMICS



John Jozsa, MA, MPA
President

Incl.

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SUMMARY OF FINDINGS

In 2017 Atlantic Gold Corporation announced their Moose River Consolidated Project involving gold mining sites at the Touquoy Mine in Mooseland, Beaver Dam, Fifteen Mile Stream and Cochrane Hill in Nova Scotia.

The proposed Cochrane Hill open pit gold mine project in the Municipality of the District of St. Mary's (the Municipality) will be developed in association with the currently operating Touquoy Mine in Mooseland and be permitted and operated as a separate satellite surface mine.

The Council of the Municipality requested this study to help form its position regarding the Mine.

ENVIRONMENTAL SCAN

An environmental scan of key baseline socio-economic conditions was completed to help assess how the Municipality might absorb impacts of the Project.

DEMOGRAPHIC SCAN

The older age structure in the Municipality and the decline in the population age groups that make up the prime working age cohorts suggest that the Municipality's labour force will have difficulty absorbing the jobs created by the mine.

Only the age cohorts age 65 – 74 grew from 2006-16, suggesting that the majority of intra and inter-provincial migrants arriving in the Municipality tend to be in the post-retirement age groups.

LABOUR FORCE SCAN

Residents who were employed sometime during the 12 months, 2015-16, worked on average for 35 weeks, 6.5 weeks less (16% less) than people in the Rest of Nova Scotia (RoNS) suggesting that businesses are working well below capacity. Increased economic activity due to indirect and induced impacts will likely show up as increases in the number of weeks worked rather than discrete new jobs.

Trades, equipment operators and manufacturing related occupations showed the largest decrease in their share of the experienced labour force suggesting that if a significant number of residents are to gain employment at the mine there will need to be job-training programs.

SOCIAL AND COMMUNITY SCAN

Secondary residences make up 38% of the housing stock (vs 12% in the RoNS). The owners of secondary private dwellings may be reticent to have the peaceful use of their properties potentially interfered with by the operation of the mine. The relatively large number of secondary private dwellings suggests that temporary/seasonal residents they have an outsized effect on public opinion regarding the mine.

Education levels among the Municipality's core working age cohort (25 – 64 years old) are substantially lower than in the RoNS. However, the percentage of 25 to 64 year olds that have trades certificates or diplomas is significantly higher than in than in the RoNS. This

suggests that a good portion of working age residents may be job ready, or may need moderate upgrading, for work at the mine.

ECONOMIC SECTORS SCAN

Efforts should be made to convince the mine's proponent to structure tender packages in a manner conducive to bidding by local businesses. If these efforts are successful, some of the decline in the construction and waste management & remediation sectors could be reversed.

MATERIAL WELLBEING SCAN

The gap in after-tax income is almost entirely due to the lower average number of weeks worked in St. Mary's (35 weeks) versus the RoNS (41.5 weeks). This suggests that wage rates in the Municipality are comparable to those in the rest of Nova Scotia.

55.5% of resident households in the Municipality are in the two lower of five income tranches compared to 46.8% in the rest of Nova Scotia. If even a small number of residents of the municipality are able to win jobs at the mine, which will pay on average about \$84,500 per year, the household income profile of households in the municipality could improve.

The difference in the overall percentage of low income persons in the Municipality, compared to the RoNS, is due almost entirely to very high percentage of persons 65 years old and older living in low after-tax households. It is unlikely that persons over 65 years old will directly benefit financially from any growth caused by the mine. However, the increase in the tax base provides the Municipality with increased revenue, some of which could be used to expand services for seniors to mitigate the effects associated with low after-tax income.

SOCIO-ECONOMIC IMPACTS OF THE MINE

MINE DEVELOPMENT ECONOMIC IMPACTS

Gross Impact of Cochrane Gold Mine Development (Initial Yr*) (\$ millions, 2019\$)										\$ 23.44 million		
Region	GDP @ Market Prices			Household Income			Taxes			Jobs		
	Direct GDP	Indirect + Induced GDP	Total GDP	Direct Household Income	Indirect + Induced Household Income	Total Household Income	Income Taxes	Consumption + Property Related Taxes	Local Property & Other Taxes	Direct Jobs**	Indirect + Induced Jobs***	Total Jobs
Canada	\$12.12	\$13.64	\$25.76	\$7.73	\$6.94	\$15.17	\$4.32	\$2.14	\$0.75	91	150	241
Federal Government							\$ 2.70	\$ 0.79				
Nova Scotia	\$ 12.12	\$ 8.13	\$ 20.25	\$ 7.73	\$ 4.08	\$ 12.43	\$ 1.32	\$ 1.12	\$ 0.58	91	92	184
Rest of Atlantic Canada	\$ -	\$ 0.77	\$ 0.77	\$ -	\$ 0.40	\$ 0.34	\$ 0.04	\$ 0.05	\$ 0.01	-	9	9
Ontario + Quebec	\$ -	\$ 3.78	\$ 3.78	\$ -	\$ 1.96	\$ 1.94	\$ 0.22	\$ 0.14	\$ 0.14	-	39	39
West and Territories	\$ -	\$ 0.96	\$ 0.96	\$ -	\$ 0.49	\$ 0.46	\$ 0.05	\$ 0.04	\$ 0.02	-	9	9

* Annual impacts in years 2 to 6 are 40% of initial year impacts.
** 2,132 hours per direct job person year
*** Most indirect and induced jobs are less than one standard person year (2,000 hrs.).
Source: [Jozsa Management & Economics](#)

The initial year of mine development will create about 91 direct jobs. Each direct job will pay about \$84,522, not including supplementary labour income. About 92 indirect and induced jobs will be created throughout Nova Scotia and 58 in the rest of Canada.

In each of the five years after initial development capital repair and capital replacement will create about 40% of the impacts associated with the initial development spending.

The following table summarizes the job and household income impacts of the initial development of the mine and the five years of capital repair and capital replacement that follow the initial year of development.

Mine Development and Capital Replacement Related Job Impacts			
	Jobs	Ave. Salary (not including benefits)	Household Income
Mine Development (Initial Development Year)			
Nova Scotia Direct Initial Year Development Jobs	91	\$84,522	\$7,730,989
St. Mary's capture of Direct Initial Year Development Jobs (20%, high assumption)	18	\$84,522	\$1,546,198
Rest of Nova Scotia Direct Initial Year Development Jobs	73	\$84,522	\$6,184,791
Nova Scotia Spinoff Initial Year Development Jobs	92	\$ 44,237	\$4,080,789
St. Mary's capture of Spinoff Initial Year Development Jobs (1% - 4% assumption)	2	\$ 44,237	\$102,020
Rest of Nova Scotia Spinoff Initial Year Development Jobs	90	\$ 44,237	\$3,978,769
Mine Development / Capital Replacement (total 5 Years post Initial Year)			
Nova Scotia Direct Capital Replacement Jobs	183	\$84,522	\$15,461,978
St. Mary's capture of Direct Capital Replacement Jobs (20%, high assumption)	37	\$84,522	\$3,092,396
Rest of Nova Scotia Direct Capital Replacement Jobs	146	\$84,522	\$12,369,583
Nova Scotia Spinoff Capital Replacement Jobs	184	\$44,237	\$8,161,578
St. Mary's capture of spinoff Capital Replacement Jobs (1% - 4% assumption)	5	\$44,237	\$204,039
Rest of Nova Scotia Spinoff Capital Replacement Jobs	180	\$44,237	\$7,957,538
Mine Development (Initial Development Year plus 5 Years of Capital Replacement)			
Nova Scotia Direct Development & Capital Replacement Jobs	274	\$84,522	\$23,192,968
St. Mary's capture of Direct Development & Capital Replacement Jobs (20%, high assumption)	55	\$84,522	\$4,638,594
Rest of Nova Scotia Direct Development & Capital Replacement Jobs	220	\$84,522	\$18,554,374
Nova Scotia Spinoff Development & Capital Replacement Jobs	277	\$44,237	\$12,242,367
St. Mary's capture of Spinoff Development & Capital Replacement Jobs (1% - 4% assumption)	7	\$44,237	\$306,059
Rest of Nova Scotia Spinoff Development & Capital Replacement Jobs	270	\$44,237	\$11,936,307
Source: <u>Jozsa Management & Economics</u>			

CAPTURING DIRECT JOBS FROM MINE DEVELOPMENT

Most development direct jobs will be construction type jobs (trades, transport and equipment operators).

Experienced trades and transport and equipment operator labour in the Municipality declined significantly from 2006 to 2016. The large declines suggest that if local residents are to gain employment during mine development there will need to be skills upgrading and training

programs.

About 50 to 60 experienced construction related labour, trades, transport and equipment operator personnel may be available for employment during mine development. Moreover, a large percentage of the experienced labour is 65 years old and older.

The capture of direct mine development jobs could be enhanced if the project proponent is willing:

- to engage in skills upgrading programs for local labour, and
- to create bid packages that can be effectively bid upon by local firms.

Residents of the Municipality might capture, at most, 20% of the direct mine development jobs.

In each of the five years after initial development capital repair and capital replacement will create about 40% of the impacts associated with the initial development spending.

CAPTURING SPINOFF JOBS FROM MINE DEVELOPMENT

About 92 indirect and induced jobs will be created throughout Nova Scotia by the development of the mine.

In each of the five years after initial development capital repair and capital replacement will create about 40% of the impacts associated with the initial development spending.

Assuming that no special efforts are made by the proponent to purchase goods and services, St. Mary's can expect to capture 1% to 4% of the spinoff activity.

The capture of spinoff mine development jobs could be enhanced if the project proponent is willing:

- to contract-out elements of mine development; and
- to create bid packages that can be effectively bid upon by local firms.

MINE OPERATIONS ECONOMIC IMPACTS

Gross Impact of Cochrane Gold Mine Operations Annual (\$ millions, 2019\$)										\$ 65.77 million		
Region	GDP @ Market Prices			Household Income			Taxes			Jobs		
	Direct GDP	Indirect + Induced GDP	Total GDP	Direct Household Income	Indirect + Induced Household Income	Total Household Income	Income Taxes	Consumption + Property Related Taxes	Local Property & Other Taxes	Direct Jobs*	Indirect + Induced Jobs**	Total Jobs
Canada	\$42.98	\$29.14	\$72.12	\$18.59	\$14.16	\$32.76	\$12.14	\$6.04	\$2.08	220	306	526
Federal Government							\$ 7.55	\$ 2.21				
Nova Scotia	\$ 42.98	\$ 18.10	\$ 61.08	\$ 18.59	\$ 8.54	\$ 27.14	\$ 3.97	\$ 3.39	\$ 1.74	220	193	413
Rest of Atlantic Canada	\$ -	\$ 1.80	\$ 1.80	\$ -	\$ 0.87	\$ 0.87	\$ 0.10	\$ 0.11	\$ 0.03	-	19	19
Ontario + Quebec	\$ -	\$ 7.46	\$ 7.46	\$ -	\$ 3.83	\$ 3.83	\$ 0.43	\$ 0.27	\$ 0.28	-	77	77
West and Territories	\$ -	\$ 1.78	\$ 1.78	\$ -	\$ 0.92	\$ 0.92	\$ 0.08	\$ 0.07	\$ 0.04	-	17	17

* 2,132 hours per direct job person year

** Most indirect and induced jobs are less than one standard person year (2,000 hrs.) in duration per year.

Source: Jozsa Management & Economics

The mine will operate for about six years.

Each operating year the mine will create about 220 direct jobs and each direct job will pay about \$84,522, not including supplementary labour income.

Each operating year about 193 indirect and induced jobs will be created throughout Nova Scotia and 113 in the rest of Canada.

CAPTURING DIRECT JOBS FROM MINE OPERATIONS

Most operations jobs will require the job skills associated with:

- skilled trades person;
- transport and equipment operators & related jobs;
- mining, natural resources; agriculture & related production jobs; and
- manufacturing related jobs.

About 120 experienced workers in these occupations in the Municipality may be available for employment at the mine. A large percentage of the experienced labour is 65 years old and older.

The capture of direct mine operations jobs could be enhanced if the project proponent:

- engages in skills upgrading programs for local labour, and
- creates bid packages for goods and services used by the mine that can be effectively bid upon by local firms.

Residents may be able to capture, at most, 30% of the direct operations jobs.

CAPTURING SPINOFF JOBS FROM MINE OPERATIONS

About 193 indirect and induced jobs will be created throughout Nova Scotia by the operation of the mine.

Assuming that no special efforts are made by the proponent to purchase goods and services, St. Mary's can expect to capture 1% to 4% of the spinoff activity.

The capture of spinoff mine operations jobs could be enhanced if the project proponent is willing:

- to contract-out elements of mine development; and
- to create bid packages that can be effectively bid upon by local firms.

The following table summarizes the job and household income impacts of the operation of the mine.

Mine Operations Related Job Impacts					
	Annual			6 Years Cumulative	
	Jobs	Ave. Salary (not including benefits)	Household Income	Jobs	Household Income
Nova Scotia Direct Operations Jobs	220	\$84,522	\$7,730,989	1,320	\$ 46,385,935
St. Mary's capture of Direct Operations Jobs (30% , high assumption)	66	\$84,522	\$1,546,198	396	\$ 9,277,187
Rest of Nova Scotia Direct Operations Jobs	154	\$84,522	\$6,184,791	924	\$ 37,108,748
Nova Scotia Spinoff Operations Jobs	193	\$ 44,237	\$4,080,789	1,158	\$ 24,484,733
St. Mary's capture of Operations Spinoff Jobs (1% - 4% assumption)	5	\$ 44,237	\$102,020	29	\$ 612,118
Rest of Nova Scotia Operations Spinoff Jobs	188	\$ 44,237	\$3,978,769	1,129	\$ 23,872,615

Source: Jozsa Management & Economics

MINE RECLAMATION IMPACTS

Gross Impact of Cochrane Gold Mine Reclamation (1 to 3 Yrs) (\$ millions, 2019\$)										\$ 5.17 million		
Region	GDP @ Market Prices			Household Income			Taxes			Jobs		
	Direct GDP	Indirect + Induced GDP	Total GDP	Direct Household Income	Indirect + Induced Household Income	Total Household Income	Income Taxes	Consumption + Property Related Taxes	Local Property & Other Taxes	Direct Jobs*	Indirect + Induced Jobs**	Total Jobs
Canada	\$2.76	\$3.99	\$6.75	\$2.07	\$2.18	\$4.25	\$1.02	\$0.50	\$0.17	35	47	82
Federal Government							\$ 0.63	\$ 0.19				
Nova Scotia	\$ 2.76	\$ 2.35	\$ 5.11	\$ 2.07	\$ 1.31	\$ 3.38	\$ 0.29	\$ 0.25	\$ 0.13	35	30	65
Rest of Atlantic Canada	\$ -	\$ 0.42	\$ 0.42	\$ -	\$ 0.21	\$ 0.21	\$ 0.02	\$ 0.03	\$ 0.01	-	5	5
Ontario + Quebec	\$ -	\$ 0.98	\$ 0.98	\$ -	\$ 0.52	\$ 0.52	\$ 0.06	\$ 0.04	\$ 0.04	-	11	11
West and Territories	\$ -	\$ 0.24	\$ 0.24	\$ -	\$ 0.14	\$ 0.14	\$ 0.01	\$ 0.01	\$ 0.005	-	3	3

* Direct jobs are person years, 2,000 hours. ** Most indirect and induced jobs are less than one standard person year (2,000 hrs.).

Source: Jozsa Management & Economics

Mine reclamation will create about 35 direct fulltime equivalent jobs and 30 spinoff jobs throughout Nova Scotia.

CAPTURING DIRECT JOBS FROM MINE RECLAMATION

Most reclamation jobs will require skills associated with trades persons, transport and equipment operators & related occupations and natural resources and agriculture & related production occupations.

Experienced workers in these occupations declined significantly from 2006 to 2016.

Given estimates of current employment, about 100 experienced workers in these occupations in the Municipality may be available for employment during mine reclamation.

Residents may be able to capture up to 40% of the direct reclamation jobs.

CAPTURING SPINOFF JOBS FROM MINE RECLAMATION

About 30 indirect and induced jobs will be created throughout Nova Scotia by the reclamation of the mine.

Assuming that no special efforts are made by the proponent to purchase goods and services, St. Mary's can expect to capture 1% to 4% of the spinoff activity.

The capture of spinoff mine reclamation jobs could be enhanced if the project proponent is willing:

- to contract-out elements of mine development; and
- to create bid packages that can be effectively bid upon by local firms.

The following table summarizes the job and household income impacts of the reclamation of the mine.

Mine Reclamation Related Job Impacts*			
	Jobs	Ave. Salary (not including benefits)	Household Income
Nova Scotia Direct Mine Reclamation Jobs	35	\$59,019	\$2,072,174
St. Mary's capture of Direct Mine Reclamation Jobs (40% , high assumption)	14	\$59,019	\$828,869
Rest of Nova Scotia Direct Operations Jobs	21	\$59,019	\$1,243,304
Nova Scotia Spinoff Mine Reclamation Jobs	30	\$ 44,237	\$1,305,286
St. Mary's capture of Spinoff Mine Reclamation Jobs (1% - 4% assumption)	1	\$ 44,237	\$32,632
Rest of Nova Scotia Spinoff Mine Reclamation Jobs	29	\$ 44,237	\$1,272,654
* Impacts spread over 1 to 3 years depending on reclamation schedule.			
Source: <u>Jozsa Management & Economics</u>			

POPULATION IMPACTS

The impacts on St. Mary's population will be very limited for the following reasons because all jobs (direct and spinoff) created by the Cochrane Hill gold mine project will be temporary because the project has a lifecycle of seven to nine years.

It may be possible to increase the number of permanent residents if the Municipality would take it upon itself to identify former residents who have moved away for work and who may be able to compete for jobs at the mine. Because of their personal connection to the Municipality, they may be willing to take the risk of moving back to St. Mary's.

RESIDENTIAL REAL ESTATE IMPACTS

The impacts on the value of current properties, and on the potential for new residential properties, will stem mainly from the following factors:

- noise, dust, light pollution and traffic generated by the project and view planes into the project; and
- subjective perceptions of the effect of the mine of the peaceful use of current properties.

Results of the noise, dust, light pollution, traffic and view plane studies are not yet available

hence no conclusions can be drawn at this time regarding impacts on current property values.

MUNICIPAL TAXATION IMPACTS

The assessed commercial value will be in the order of \$14,550,315 (2019\$). Based on this value and the commercial tax rate for 2019, tax revenue, per operating year, will be about \$328,837.

Details of the components of the mine and their cost have not yet been provided to the consultants. Once they become available, a more accurate estimate of municipal tax revenue can be produced.

EFFECTS ON PUBLIC ROADS AND SAFETY

The proponent's traffic study was not complete at the time of writing.

Based on the project description of September 2018 there will be about 128 vehicle roundtrips per day of which six will be heavy transport trucks and the remainder will be light trucks and private cars of employees.

Virtually all vehicle trips will use all season, all weather Provincial highways.

Preliminary analysis indicates that Highway 7 in St. Mary's has sufficient capacity and capability to handle increased traffic without abnormal impacts on road conditions or adverse effects on public safety. The consultants are waiting further information from Transportation and Infrastructure Renewal Nova Scotia.

The average annual daily traffic (AADT) on the section of Highway 7 between the mine site and Sherbrooke will rise to about 1,045 from the current 910 AADT. Of the 135 increase in AADT about 12 will be eight axel C Train trucks and the remainder will be passenger and small commercial vehicles.

POTENTIAL IMPACTS ON BUSINESS DEVELOPMENT

POTENTIAL IMPACTS ON CURRENT BUSINESSES

The business and organizations with the most potential to gain from the mine project include trucking, electrical, fuel, mechanical, building supply, excavating, some administrative and personal services.

The business and organizations with the highest risk and potentially the most to lose are those in the tourism and recreation sector, particularly those that are closely aligned with the recreational use of the St. Mary's River.

POTENTIAL OPPORTUNITIES FOR NEW BUSINESSES

Based on the proponent's project description it does not appear that the operation of the mine would support significant, sustainable new business creation.

Heavy truck hauling, explosive servicing and fuel delivery and general construction and demolition may be contracted out. This however has yet to be confirmed.

Existing suppliers and contractors currently supporting the proponent's other mine operations in Nova Scotia could absorb most or all of the required goods and services and additional operational requirements for Cochrane Hill.

POTENTIAL IMPACTS ON LOCAL TOURISM ASSETS

The proposed Cochrane Hill mine is a potential threat to the current sustainability and future growth of the tourism sector in the Municipality.

The potential threat comes in several forms:

- Mine operations could be the source of light, dust and noise pollution.
- Containments used in the mining process could get into the waterways including the St. Mary's River.
- Regular scheduled large tandem ore trucks on the main shore highway may discourage tourists.
- The mere existence of an open pit mine is operating in the area could act as a disincentive for tourists and potential seasonal residents.

POTENTIAL LEGACY PROJECTS

LEGACY PROJECTS SUPPORTED BY THE MINE PROPONENT

On completion of major projects communities often negotiate to require investment by the project proponent in 'legacy projects' that help compensate the local community for its absorption of negative impacts associated with large projects.

Proponents may leave project specific redundant equipment, buildings or other assets to the community. The community can negotiate for legacy projects that suit its needs.

LEGACY PROJECTS SUPPORTED BY PROVINCIAL ROYALTIES ON MINERAL PRODUCTION

Legacy projects are often sponsored by senior levels of government to help compensate municipalities for their absorption of negative.

Municipalities do not receive direct financial benefits that stem from land based resource extraction royalties paid to a Provincial Government. However, municipalities can petition provincial governments to sponsor/develop legacy project(s) that are indirectly funded from provincial royalties.

Royalties associated with activities at Cochrane Hill will be about \$738,951 per year.

1 INTRODUCTION

The Municipality of the District of St. Mary's (the Municipality) encompasses a land mass of over 1,900 sq. km within the eastern region of Guysborough County, Nova Scotia.

Traditional industry in the area was farming, fishing, forestry and mining. More recently, the area increased its concentration on the lobster fishery and tourism as its main economic drivers.

In 2017 Atlantic Gold Corporation announced their Moose River Consolidated Project involving gold mining sites at the Touquoy Mine in Mooseland, Beaver Dam, Fifteen Mile Stream and Cochrane Hill in Nova Scotia.

1.1 BACKGROUND TO THIS STUDY

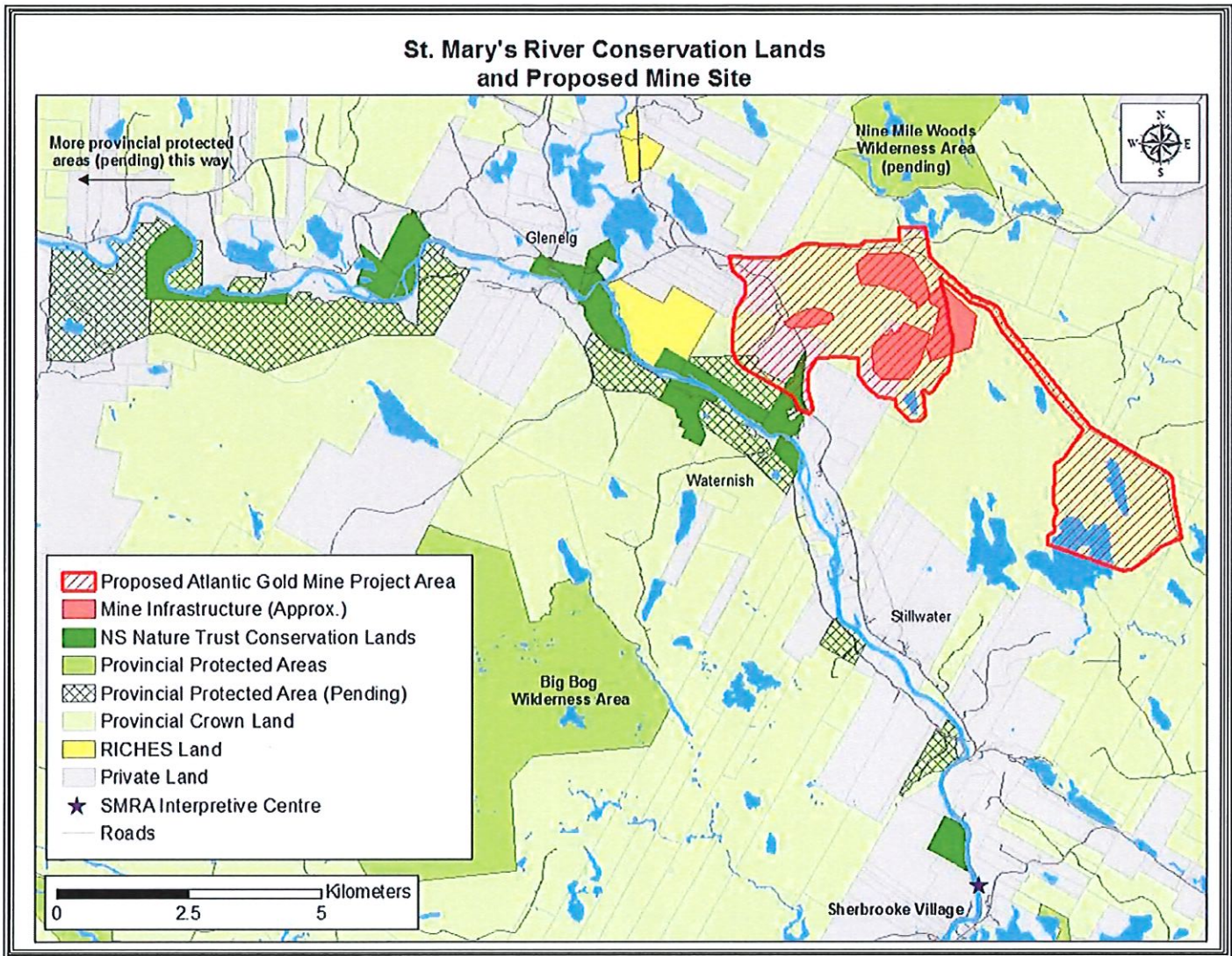
The Cochrane Hill open pit gold mine (the Project) will:

- be developed in association with the currently operating Touquoy Mine in Mooseland;
- be permitted and operated as a separate satellite surface mine;
- have a production rate of approximately two million Mt of gold-bearing ore per year;
- crush and concentrate ore at the site (There will not be a CIL cyanide leach circuit at the Project site.);
- haul the gold concentrate 142 km over all weather/all season roads southward from the mine site to the Touquoy processing facility for final processing (No hauling will take place on any roads owned and maintained by the Municipality.).

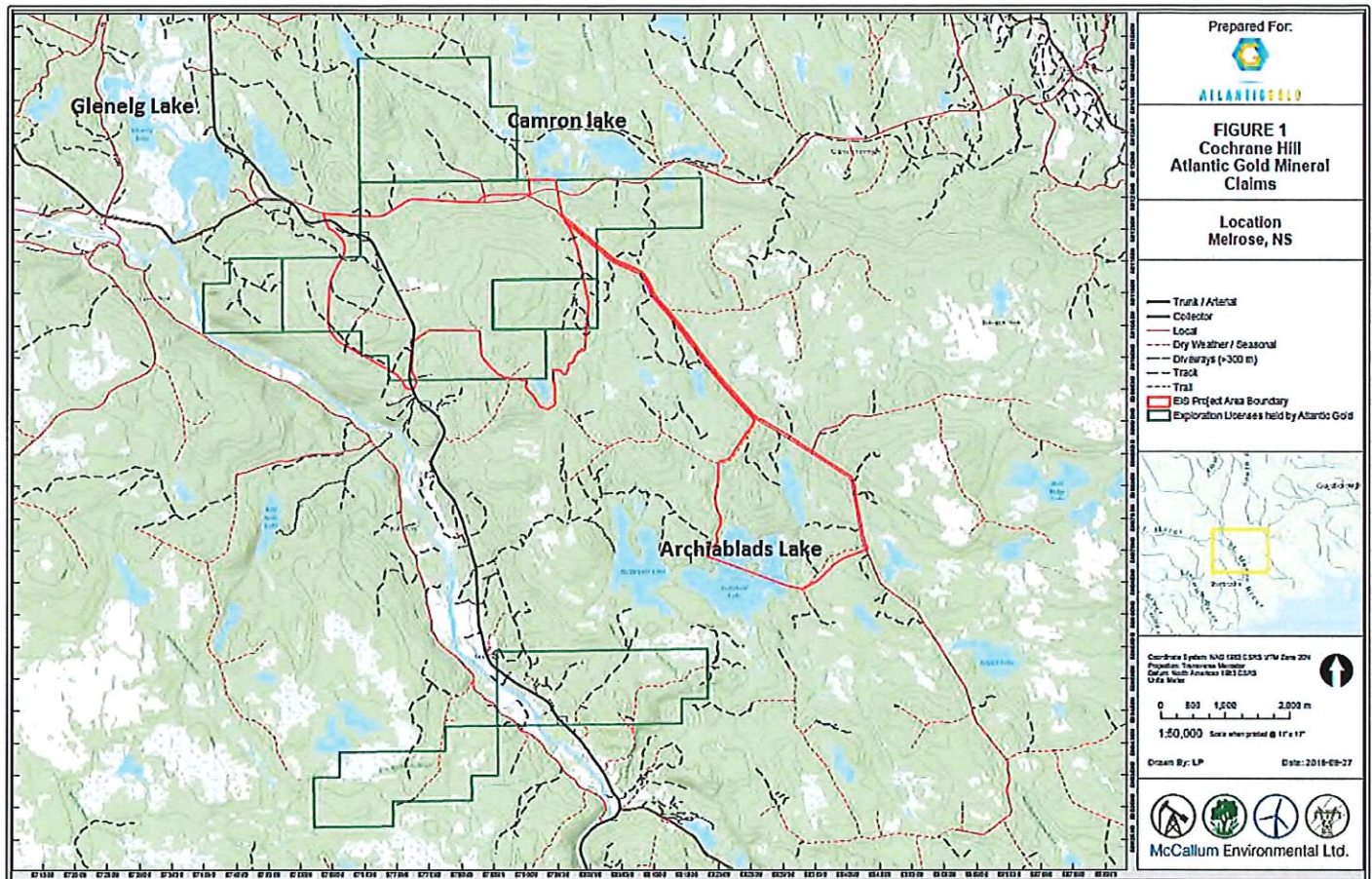
The Project timeframe will include a one-year mine development program, about six operating years and a 1 to 3 year mine reclamation program.

The Canadian Environmental Assessment Agency ordered an environmental assessment for the Cochrane Hill Open Pit gold mine proposal and Atlantic Gold are currently working on an Environmental Impact Statement (EIS) as part of this process. The EIS was expected to be completed in late summer / early fall of 2019 at which time hearings will be held. However, as of December 2019 the EIS has not been completed.

The exhibit below, St. Mary's River Conservation Lands and Proposed Mine Site, shows the location of the proposed Project in the Municipality of the District of St. Mary's and in the context of the St. Mary's River Conservation Lands.



The exhibit below, Cochrane Hill Atlantic Gold mineral claims, shows the location of Atlantic Gold's mineral claims at Cochrane Hill.



1.2 PURPOSE

The Municipality of the District of St. Mary's (the 'Municipality') needs to evaluate the direct indirect and induced impacts on the Municipality stemming from the proposed gold mining operation by Atlantic Gold at Cochrane Hill.

This economic impact assessment is needed to help:

- identify positive and negative socio-economic impacts that could be associated with the development, operation and closure of the proposed gold mine;
- weigh economic and social factors of the proposed mine that can be attributed to the Municipality and the residents of the Municipality;
- explore ways to leverage the mining related activity to increase and expand the social and economic base of the Municipality; and
- Council in forming position regarding the proposed Cochrane Hill surface gold mine.

1.3 SCOPE

The geographical scope focuses on the direct and indirect socio-economic effects of the proposed mine on the residents, economy and municipal government of the Municipality of the District of St. Mary's. Effects outside of the Municipality will be responsibility of senior levels of government.

We understand that the focus must be on the effects on the Municipality and its residents. However, to understand fully the potential economic effects on the Municipality we allocate some effort to understand the totality of the economic effects of the mine. The assessment of the wider effects of the mine provides baseline information that will help identify the extent to which the Municipality can capture positive impacts beyond those that would occur without supportive actions of the Municipality.

The subject matter scope includes:

- employment estimates for local residents;
- population changes;
- business opportunities for new start-ups and business expansions;
- socio-economic impacts to the St Mary's River;
- housing / real estate valuation/devaluation within 5, 10 and 20 km radius intervals of the proposed mine site;
- impacts on public roads as result of the mine and transportation of the minerals to the Touquoy processing facility;
- tourism impacts;
- public safety – mining operations and increased heavy truck traffic en-route from mine to processing facility;
- long term economic and social impacts of the closed mine after reclamation; and
- taxation impacts for the Municipality.

The terms of reference included an "Other" category in list of subject matter requirements.

Based on experience we added issues of legacy impacts that should be considered.

Experience in other impact analyses shows that legacy impacts can include roads and in-ground infrastructure left for the use of the local municipality, movable structures that can be re-purposed, special community projects sponsored by the mine's proponent, special support by the provincial government to help the community absorb the impact of the mine, etc.

To provide a useful assessment of impacts we provide baseline measures of key socio-economic conditions relevant to the community's ability to absorb the positive and negative impacts of the Project. To that end, we include in the scope an environmental scan.

2 ENVIRONMENTAL SCAN

The environmental scan of baseline key socio-economic conditions relevant to absorbing positive and negative impacts of the Project includes the following:

- demographic scan;
- labour force scan;
- social and community scan;
- economic sectors scan; and
- material wellbeing scan.

2.1 DEMOGRAPHIC SCAN

2.1.1 POPULATION

Population, 2006 - 2016										
	2006				2016					
	St. Mary's CSD		Rest of Nova Scotia		St. Mary's CSD			Rest of Nova Scotia		
	#	% of Total	#	% of Total	#	% of Total	Change 06-16	#	% of Total	Change 06-16
Total	2,590		910,870		2,230		-13.9%	921,370		1.2%
0-4 years	75	2.9%	41,965	4.6%	70	3.1%	-6.7%	41,935	4.6%	-0.1%
5-14 years	235	9.1%	104,155	11.4%	180	8.1%	-23.4%	91,645	9.9%	-12.0%
15-19 years	185	7.1%	61,255	6.7%	110	4.9%	-40.5%	51,145	5.6%	-16.5%
20-24 years	95	3.7%	56,680	6.2%	70	3.1%	-26.3%	56,090	6.1%	-1.0%
25-44 years	565	21.8%	241,320	26.5%	350	15.7%	-38.1%	214,165	23.2%	-11.3%
45-54 years	400	15.4%	148,510	16.3%	345	15.5%	-13.8%	137,220	14.9%	-7.6%
55-64 years	445	17.2%	119,355	13.1%	415	18.6%	-6.7%	146,050	15.9%	22.4%
65-74 years	315	12.2%	72,980	8.0%	395	17.7%	25.4%	108,320	11.8%	48.4%
75-84 years	195	7.5%	46,110	5.1%	225	10.1%	15.4%	43,395	4.7%	-5.9%
85+ years	75	2.9%	18,535	2.0%	70	3.1%	-6.7%	21,575	2.3%	16.4%

Source: Census, 2006, 2016 and *Jozsa Management & Economics* (Total may not add due to rounding.)

The exhibit above, Population, 2006 – 2016, shows the population of the Municipality and the rest of Nova Scotia in 2006 and 2016. The municipality showed a substantial population decline (13.9%) in contrast to some growth (1.2%) in the rest of NS (RoNS).

The Municipality's population decline occurred in all age cohorts except in the age 65 – 74 cohort.

The most significant declines are in the 15 – 44 year cohorts, which are the prime working age cohorts and the prime family creation cohorts.

The Municipality has a significantly older age structure than the rest of Nova Scotia. About 31% of population in the municipality is 65 years or older (vs 19% in RoNS).

The older age structure in the Municipality and the decline in the population age groups that make up the prime working age cohorts suggest that the Municipality's labour force will have difficulty absorbing the jobs created by the mine.

2.1.2 POPULATION MOBILITY

Population Mobility, 2016				
	Saint Mary's CSD		Rest of Nova Scotia	
		% of Total		% of Total
Total - 1 Yr Ago	2,185		898,265	
Non-movers	2,065	94.5%	790,035	88.0%
Same prov. - changed address	75	3.4%	86,570	9.6%
Non-migrants (same CSD, CD)	45	2.1%	68,120	7.6%
Intraprovincial migrants	30	1.4%	18,450	2.1%
Different prov./territory/country	45	2.1%	21,665	2.4%
Interprovincial migrants	45	2.1%	15,195	1.7%
External migrants	-	0.0%	6,470	0.7%
Total - 5 Yrs Ago	2,150		864,275	
Non-movers	1,740	80.9%	580,965	67.2%
Same prov. - changed address	330	15.3%	219,570	25.4%
Non-migrants (same CSD, CD)	150	7.0%	169,420	19.6%
Intraprovincial migrants	180	8.4%	50,150	5.8%
Different prov./territory/country	80	3.7%	63,745	7.4%
Interprovincial migrants	65	3.0%	44,490	5.1%
External migrants	15	0.7%	19,255	2.2%
Source: Census and <u>Jozsa Management & Economics</u> (Totals may not add due to rounding.)				

The exhibit above, Population Mobility, 2016, shows that the overall mobility in the municipality is similar to the RoNS.

During the five-year period, 2011 – 2016, 88% of the residents did not move or moved within the Municipality vs 87% for the RoNS (2011–16)

In percentage terms, the portion of the Municipality's population that are intra-provincial or interprovincial migrants is similar to the RoNS.

As the exhibit describing the population structure of the Municipality shows, only the age cohorts age 65 – 74 grew from 2006-16, suggesting that the majority of intra and inter-provincial migrants arriving in the Municipality tend to be in the post-retirement age groups. This also suggests that the Municipality may be a preferred destination for post-retirement people, who may have chosen the area for reasons that might conflict with significant socio-economic or environmental change.

2.2 LABOUR FORCE SCAN

2.2.1 WORK ACTIVITY

Work Activity (Pop. 15+), 2015-16				
	St. Mary's CSD		Rest of Nova Scotia	
		% of Total		% of Total
Total, 15+ years, work activity in 2015-16	1,980		772,770	
Did not work	790	39.9%	273,585	35.4%
Worked	1,190	60.1%	499,180	64.6%
Worked full year; full time	420	21.2%	252,400	32.7%
Worked part year and/or part time	770	38.9%	246,780	31.9%
Average weeks worked	35.0		41.6	

Source: Census, 2016 and Jozsa Management & Economics (Totals may not add due to rounding.)

The exhibit above, Work Activity (Pop 15+), 2015 – 16, shows that the Municipality has an experienced labour force of about 1,190.

As expected, a smaller percentage of the Municipality's labour force age group worked in the 12 months preceding the census than in the RoNS.

Residents who were employed sometime during the 12 months, 2015-16, worked on average for 35 weeks, 6.5 weeks less (16% less) than people in the RoNS. The low average number of weeks worked suggests that businesses and their employees are working well below capacity.

Increased economic activity due to indirect and induced impacts will likely show up as increases in the number of weeks worked and improved profitability of businesses rather than discrete new jobs.

2.2.2 LABOUR FORCE STATUS

Labour Force Status (Pop. 15+), 2016		
	St. Mary's CSD	Rest of Nova Scotia
Population 15+ years	1,980	772,770
In the labour force	1,120	473,475
Employed	915	426,395
Unemployed	205	47,075
Not in labour force	860	299,295
Participation rate	56.6%	61.3%
Employment rate	46.2%	55.2%
Unemployment rate	18.3%	9.9%

Source: Census and Jozsa Management & Economics (Total may not add due to rounding.)

The exhibit above, Labour Force Status (Pop 15+), 2016, shows that at the time of the 2016 Census only 915 residents reported being employed (versus 1,190 who reported working at some time during the previous 12 months).

The participation rate is lower than that of the RoNS for three main reasons:

- People are likely leaving the active labour force due to low expectations for finding work.
- About 35% of the labour force age group is 65 years or older (vs 22% in the RoNS).
- Drawing significantly more labour from the prime working age group (20 – 54 years old) may be difficult since it accounts for only 39% of the labour force age group (LFAG) vs 52% in the RoNS.

2.2.3 EXPERIENCED LABOUR FORCE BY OCCUPATION

Experienced Labour Force by Occupation							
Occupations	2016				2006		
	St. Mary's CSD		Rest of Nova Scotia		St. Mary's CSD		Rest of Nova Scotia
		% of Total		% of Total		% of Total	% of Total
Total experienced labour force, aged 15+ years	1,190		499,180		1,283		476,615
Occupation - not applicable	21	1.8%	9,747	2.0%	23	1.8%	9,285
All occupations	1,169	98.2%	489,433	98.0%	1,260	98.2%	467,330
Management	101	8.5%	47,901	9.6%	70	5.5%	41,630
Business; finance and administration	139	11.7%	71,022	14.2%	110	8.6%	79,330
Natural and applied sciences & related	43	3.6%	28,898	5.8%	50	3.9%	24,975
Health	80	6.7%	39,562	7.9%	45	3.5%	31,075
Education, law, social; community & govt. services	91	7.6%	61,233	12.3%	65	5.1%	39,285
Art; culture; recreation & sport	32	2.7%	13,136	2.6%	40	3.1%	12,700
Sales and service occupations	235	19.7%	119,044	23.8%	280	21.8%	122,590
Trades; transport and equipment operators & related	192	16.1%	71,106	14.2%	265	20.7%	69,700
Natural resources; agriculture & related production	208	17.5%	19,172	3.8%	260	20.3%	24,230
Manufacturing and utilities	48	4.0%	18,360	3.7%	75	5.8%	21,815

Source: Census and *Jozsa Management & Economics* (Totals may not add due to rounding.)

The exhibit above, Experienced Labour Force by Occupation, shows that the composition of the Municipality's experienced labour force (i.e. People who have worked at sometime in the previous 12 months) changed significantly from 2006 to 2016.

The occupation groups:

- highlighted in light red show occupations that have increased their share of the experienced labour force; and
- highlighted in light blue show occupations that have reduced their share of the experienced labour force.

In percentage terms:

- Management, health and education/law/govt. services occupations showed the largest increase in their share of the experienced labour force.
- Trades, equipment operators and manufacturing related occupations showed the largest decrease in their share of the experienced labour force. The large declines in these occupations suggests that if a significant number of local residents are to gain employment at the mine there will need to be job training programs.

2.2.4 EMPLOYMENT BY PLACE OF RESIDENCE AND PLACE OF WORK

Employment by Place of Residence and Place of Work, 2001 - 2016											
Place of Residence	Place of Work	% of Employed St. Mary's CSD Residents				Place of Residence	Place of Work	% of Persons Employed in St. Mary's CSD			
		2016	2011	2006	2001			2016	2011	2006	2001
St. Mary's, MD	St. Mary's, MD	69.9%	42.0%	59.7%	69.3%	St. Mary's, MD	St. Mary's, MD	84.0%	80.4%	76.2%	73.3%
St. Mary's, MD	Guysborough, MD	4.4%	13.6%	10.9%	3.9%	Guysborough MD	St. Mary's, MD	4.3%	8.7%	6.9%	16.7%
St. Mary's, MD	Canso, T			3.1%							
St. Mary's, MD	Antigonish CD	20.4%	35.2%	13.2%	12.6%	Antigonish CD	St. Mary's, MD	11.7%			5.0%
St. Mary's, MD	Pictou CD			7.8%	4.7%	Pictou CD	St. Mary's, MD		10.9%	16.8%	1.7%
	Inverness CD				3.1%						
St. Mary's, MD	Halifax CD	5.3%	9.1%	5.4%	4.7%	Halifax CD	St. Mary's, MD				1.7%
St. Mary's, MD	Hants CD				1.6%	Shelburne CD	St. Mary's, MD				1.7%
Total		100.0%	100.0%	100.0%	100.0%			100.0%	100.0%	100.0%	100.0%

Source: Census and Jozsa Management & Economics

The exhibit above, Employment by Place of Residence and Place of Work, 2001 – 2016, shows that 30% - 40% of employed St. Mary's residents commute to jobs outside of the Municipality.

The Antigonish CD is the destination for about 2/3 of the out-commuters.

St. Mary's residents hold about 80% of the jobs in the Municipality. About 20% of the jobs in St. Mary's are held primarily by commuters from the Antigonish and Pictou CDs.

The journey to work data also suggest that there are 17% more employed residents than there are jobs in St. Mary's and therefore that the Municipality is a net importer of jobs.

Employment at the mine would likely turn St. Mary's into a net exporter of jobs for the duration of the mine's operation.

The development and operating life of the mine is about 7 years and in-commuting from Antigonish and Pictou CDs is already common. Hence, permanent relocations of workers from outside St. Mary's will likely be limited.

2.3 SOCIAL AND COMMUNITY SCAN

2.3.1 OCCUPIED DWELLINGS; TENURE, AGE AND TYPE

Occupied Dwellings by Tenure, Age & Type, 2016				
	St. Mary's CSD		Rest of Nova Scotia	
		% of Total		% of Total
Total private dwellings	1,667		456,901	
Secondary private dwellings	625	37.5%	55,953	12.2%
Occupied by usual resident by tenure	1,042	62.5%	400,948	87.8%
Owner	942	90.4%	275,153	68.6%
Renter	100	9.6%	123,495	30.8%
Band housing	-	0.0%	2,300	0.6%
Dwelling more than 15 yrs old	968	92.9%	334,207	83.4%
Dwellings 15 yrs. old or less	74	7.1%	66,736	16.6%
Total - Occupied private dwellings by type	1,042		400,948	
Single-detached house	932	89.4%	262,538	65.5%
Apartment in building, 5 or more storeys	-	0.0%	21,350	5.3%
Movable dwelling	80	7.7%	14,790	3.7%
Other attached dwelling	30	2.9%	102,270	25.5%
Semi-detached house	5	0.5%	20,460	5.1%
Row house	-	0.0%	10,215	2.5%
Apartment or flat in a duplex	5	0.5%	12,430	3.1%
Apartment in building, less than 5 storeys	20	1.9%	58,385	14.6%
Other single-attached house	5	0.5%	775	0.2%

Source: Census and Jozsa Management & Economics (Totals may not add due to rounding.)

The exhibit above, Occupied Dwellings by Tenure, Age & Type, 2016, shows that compared to the RoNS:

- The rate of home ownership is much higher than in the rest of Nova Scotia.
- Homes tend to be older.
- The percentage of dwellings that are secondary residences is substantially higher than in the rest of Nova Scotia.

The large share of dwellings that are secondary residences is indicative of the attraction of St. Mary's for leisure and retirement.

The owners of secondary private dwellings may be reticent to have the peaceful use of their properties potentially interfered with by the operation of the mine. The relatively large number of secondary private dwellings suggests that temporary/seasonal residents they have an outsized effect on public opinion in the community.

Conversely, the large stock of secondary residences provides revenue-generating opportunities to owners who may wish to rent to employees of the mine.

2.3.2 HOUSEHOLD SIZE AND OCCUPIED DWELLINGS BY VALUE AND CONDITION

Household Size and Occupied Dwellings by Condition and Value, 2016				
	St. Mary's CSD		Rest of Nova Scotia	
		% of Total		% of Total
Total - Private households	1,042		400,948	
Number of persons in private households	2,185		906,155	
Average household size	2.1		2.3	
Average number of rooms per dwelling	6.5		6.5	
Dwellings with more than one person per room	-	0.0%	2,130	0.5%
Average value of dwellings (\$)	\$ 133,289		\$ 230,441	
Median value of dwellings (\$)	\$ 100,062		\$ 199,886	
Total - Condition of occupied private dwellings	1,042		400,948	
Only regular maintenance or minor repairs needed	942	90.4%	365,673	91.2%
Major repairs needed	100	9.6%	35,275	8.8%
Source: Census and <i>Jozsa Management & Economics</i> (Some totals may not add due to rounding.)				

The exhibit above, Household Size And Occupied Dwellings By Value And Condition, shows that occupied dwellings in St. Mary's are of similar size and condition to those in the RoNS.

Lower dwelling values are to be expected in a rural area when compared to the RoNS that is weighted to the higher housing costs and large number of dwellings in the Halifax Regional Municipality.

The lower dwelling cost suggests an opportunity to make some sales to employees of the mine who may be attracted by the lower costs even if the mine operates for only six or seven years.

Similarly, the lower dwelling costs might incentivize owners of dwellings to offer attractive rental rates to employees of the mine.

2.3.3 FAMILY AND HOUSEHOLD COMPOSITION

Family and Household Composition, 2016				
Family/Household Type	St. Mary's CSD		Rest of Nova Scotia	
	#	%	#	%
Total Households	1,042	100.0%	400,948	100.0%
1 person	316	30.3%	118,354	29.5%
2 persons	491	47.1%	156,334	39.0%
3 persons	100	9.6%	60,150	15.0%
4 persons	95	9.1%	44,875	11.2%
5 or more persons	40	3.8%	21,235	5.3%
Average household size	2.10		2.26	
Total Census Family Households	710	68.1%	270,255	67.4%
2 persons	490	69.0%	157,110	58.1%
3 persons	100	14.1%	56,525	20.9%
4 persons	90	12.7%	41,005	15.2%
5 or more persons	30	4.2%	15,615	5.8%
Average size of census families	2.54		2.70	
Total couple families	620	59.5%	223,445	55.7%
Couples without children	430	69.4%	127,695	57.1%
1 child	80	12.9%	43,730	19.6%
2 children	80	12.9%	37,515	16.8%
3 or more children	30	4.8%	14,505	6.5%
Total lone-parent families	90	8.6%	46,810	11.7%
1 child	64	70.6%	29,416	62.8%
2 children	16	17.6%	12,794	27.3%
3 or more children	11	11.8%	4,599	9.8%
Multiple-census-family households	5	0.5%	5,280	1.3%
Non-census-family households	335	32.1%	136,090	33.9%
Persons in non-census family hlds.	385		175,190	
Average size of non-census family hlds.	1.15		1.29	

Source: Census & Jozsa Management & Economics (Totals may not add due to rounding.)

The exhibit above, Family and Household Composition, 2016, shows that the:

- average household sizes are smaller in St. Mary's than in the RoNS;
- percentage of couple families without children is substantially higher than in the RoNS; and
- percentage of lone parent families is much lower than in the RoNS.

That the percentage of lone parent families in the Municipality is lower than in the rest of Nova Scotia may suggest that there may be more flexibility for family member participation in the economic activity caused by the mine than might otherwise be the case in the rest of Nova Scotia.

2.3.4 EDUCATION BY HIGHEST LEVEL

Education by Highest Level, 2016				
	St. Mary's CSD		Rest of Nova Scotia	
		% of Total		% of Total
<u>Total - Highest certificate; diploma, degree, Pop. 15+</u>	1,975		772,770	
No certificate; diploma or degree	675	34.2%	153,030	19.8%
Secondary school diploma or equiv.	510	25.8%	195,390	25.3%
Postsecondary certificate; diploma or degree	795	40.3%	424,345	54.9%
Apprenticeship or trades certificate or diploma	220	11.1%	76,590	9.9%
College; CEGEP or non-university certificate or diploma	350	17.7%	168,455	21.8%
University certificate or diploma below bachelor level	45	2.3%	18,335	2.4%
University certificate; diploma or degree, bachelor or above	180	9.1%	160,970	20.8%
<u>Total - Highest certificate; diploma, degree, Pop. 25-64</u>	1,125		493,380	
No certificate; diploma or degree	270	24.0%	60,010	12.2%
Secondary school diploma or equiv.	315	28.0%	115,965	23.5%
Postsecondary certificate; diploma or degree	540	48.0%	317,410	64.3%
Apprenticeship or trades certificate or diploma	150	13.3%	52,220	10.6%
College; CEGEP or non-university certificate or diploma	265	23.6%	127,745	25.9%
University certificate or diploma below bachelor level	30	2.7%	11,565	2.3%
University certificate; diploma or degree, bachelor or above	95	8.4%	125,875	25.5%
Source: 2016 Census and <u>Jozsa Management & Economics</u> (Totals may not add due to rounding.)				

The exhibit above, Education by Highest Level, 2016, shows that in general, education levels among the Municipality's core working age cohort (25 – 64 years old) are substantially lower than in the RoNS.

However, the percentage of 25 to 64 year olds that have trades certificates or diplomas is significantly higher than in the RoNS. This suggests that a good portion of working age residents may be job ready, or may need moderate upgrading, for work at the mine.

2.3.5 EDUCATION BY FIELD OF STUDY

Education by Field of Study, 2016				
	St. Mary's CSD		Rest of Nova Scotia	
		% of Total		% of Total
Total, Major Field of Study, Pop 15+	1,980		772,770	
No postsecondary certificate	1,185	59.8%	348,420	45.1%
Education	60	3.0%	31,335	4.1%
Visual arts, performing arts, communications	15	0.8%	10,685	1.4%
Humanities	40	2.0%	18,790	2.4%
Social and behavioural sciences and law	50	2.5%	40,105	5.2%
Business; management & public admin.	120	6.1%	92,955	12.0%
Physical & life sciences and technologies	20	1.0%	15,320	2.0%
Mathematics; computer & infor. sciences	10	0.5%	15,735	2.0%
Architecture; engineering; & related tech.	240	12.1%	92,680	12.0%
Agriculture; natural resources & conservation	40	2.0%	7,590	1.0%
Health & related fields	125	6.3%	66,645	8.6%
Personal; protective & transportation services	90	4.5%	32,445	4.2%
Other	-	0.0%	45	0.0%
Total, Major Field of Study, Pop 25-64	1,125		493,380	
No postsecondary certificate	580	51.6%	175,980	35.7%
Education	25	2.2%	20,565	4.2%
Visual arts, performing arts, communications	-	0.0%	8,145	1.7%
Humanities	15	1.3%	13,730	2.8%
Social and behavioural sciences and law	40	3.6%	32,610	6.6%
Business; management & public admin.	95	8.4%	69,160	14.0%
Physical & life sciences and technologies	-	0.0%	11,075	2.2%
Mathematics; computer & infor. sciences	-	0.0%	13,625	2.8%
Architecture; engineering; & related tech.	160	14.2%	67,770	13.7%
Agriculture; natural resources & conservation	25	2.2%	5,970	1.2%
Health & related fields	90	8.0%	50,130	10.2%
Personal; protective & transportation services	70	6.2%	24,615	5.0%
Other	-	0.0%	45	0.0%

Source: Census, 2016 and Jozsa Management & Economics (Totals may not add due to rounding.)

The exhibit above, Education By Field Of Study, 2016, shows that among the core working age group, aged 25 to 64, St. Mary's has a larger than the RoNS whose major fields of study are:

- architecture, engineering and related technologies; and
- personal, protective & transportation services.

Elements of these fields of study may make these people more attractive for employment at the mine. The relatively larger share of the educated population in these fields, compared to the rest of Nova Scotia, suggests that a reasonable portion of the educated labour force may be qualified for work at the repose mine.

2.3.6 EDUCATION BY CURRENT POSTSECONDARY FIELD OF STUDY

Education by Postsecondary Field of Study, 2016 (Pop. 15 - 24)				
	St. Mary's CSD		Rest of Nova Scotia	
		% of Total		% of Total
Total, Major Field of Postsecondary Study, Pop 15 -24)	290		106,890	
Education	35	12.1%	10,770	10.1%
Visual arts, performing arts, communications	15	5.2%	2,540	2.4%
Humanities	25	8.6%	5,060	4.7%
Social and behavioural sciences and law	10	3.4%	7,495	7.0%
Business; management & public admin.	25	8.6%	23,795	22.3%
Physical & life sciences and technologies	20	6.9%	4,245	4.0%
Mathematics; computer & infor. sciences	10	3.4%	2,110	2.0%
Architecture; engineering; & related tech.	80	27.6%	24,910	23.3%
Agriculture; natural resources & conservation	15	5.2%	1,620	1.5%
Health & related fields	35	12.1%	16,515	15.5%
Personal; protective & transportation services	20	6.9%	7,830	7.3%
Other	-	0.0%	-	0.0%

Source: Census, 2016 and Jozsa Management & Economics (Totals may not add due to rounding.)

The exhibit above, Education by Post Secondary Field of Study, 2016 (Pop 15 – 24), nets out the educated population over 24 years old.

The fields of study highlighted in light red are fields of study that are more common among the population 15 to 24 than among the population aged 25 to 64. The fields of study highlighted in light blue are fields of study that are less common among the population 15 to 24 than among the population aged 25 to 64.

The increasing concentration in:

- physical and life sciences and technologies;
- mathematics, computer and information sciences; and
- agriculture, natural resources and conservation fields of study

suggests that the up-and-coming labour force may be in an improved position to be hired at the mine in mining in mining relating jobs relative to the education of the labour force over the age of 24.

2.4 ECONOMIC SECTORS SCAN

2.4.1 EXPERIENCED LABOUR FORCE BY INDUSTRY

Industry	2016				2006			
	St.Mary's CSD		Rest of Nova Scotia		St.Mary's CSD		Rest of Nova Scotia	
		% of Total		% of Total		% of Total		% of Total
Total Experienced Labour Force	1,190	-	499,180	-	1,283		476,615	
Agriculture; forestry; fishing and hunting	213	17.9%	18,529	3.7%	253	19.7%	21,525	4.5%
Mining; quarrying; and oil and gas extraction	21	1.8%	4,222	0.8%	15	1.2%	3,227	0.7%
Utilities	-	0.0%	3,036	0.6%	10	0.8%	2,474	0.5%
Construction	80	6.7%	35,298	7.1%	136	10.6%	29,941	6.3%
Manufacturing	80	6.7%	34,054	6.8%	106	8.3%	41,765	8.8%
Wholesale trade	21	1.8%	14,049	2.8%	10	0.8%	16,491	3.5%
Retail trade	117	9.8%	62,689	12.6%	66	5.1%	58,717	12.3%
Transportation and warehousing	48	4.0%	20,680	4.1%	66	5.1%	20,616	4.3%
Information and cultural industries	11	0.9%	9,805	2.0%	-	0.0%	10,981	2.3%
Finance and insurance	16	1.3%	16,052	3.2%	20	1.6%	14,373	3.0%
Real estate and rental and leasing	32	2.7%	7,211	1.4%	-	0.0%	7,041	1.5%
Professional; scientific and technical services	16	1.3%	27,465	5.5%	10	0.8%	23,090	4.8%
Management of companies and enterprises	-	0.0%	659	0.1%	-	0.0%	522	0.1%
Administrative & support; waste management & remediation	16	1.3%	23,432	4.7%	51	3.9%	25,886	5.4%
Educational services	53	4.5%	37,354	7.5%	35	2.8%	34,784	7.3%
Health care and social assistance	170	14.3%	67,718	13.6%	131	10.2%	54,768	11.5%
Arts; entertainment and recreation	64	5.4%	9,831	2.0%	66	5.1%	9,064	1.9%
Accommodation and food services	106	8.9%	34,808	7.0%	101	7.9%	32,269	6.8%
Other services (except public administration)	48	4.0%	20,190	4.0%	76	5.9%	22,157	4.6%
Public administration	58	4.9%	42,351	8.5%	116	9.1%	39,381	8.3%
Industry N/A	21	1.8%	9,747	2.0%	15	1.2%	7,543	1.6%
		100.0%		100.0%		100.0%		100.0%

Source: Censuses and *Jozsa Management & Economics* (Totals may not add due to rounding.)

The exhibit above, Experienced Labour Force by Industry, 2016, 2006, shows that the economic structure of St. Mary's saw considerable change from 2006 to 2016.

The industries that account for a larger share of the experienced labour force in 2016 than in 2006 are highlighted in light red. The industries that account for a smaller share of the experienced labour force in 2016 than in 2006 are highlighted in light blue.

The largest percentage increases in experienced employment share were in:

- wholesale trade;
- retail trade;
- professional, scientific and technical services; and
- educational sectors.

The largest percentage decreases in employment were in:

- construction;
- waste management & remediation; and
- public administration sectors.

Efforts should be made to convince the mine's proponent to structure tender packages in a manner conducive to bidding by local businesses. If these efforts are successful, some of the decline in the construction and waste management & remediation sectors could be reversed.

2.5 MATERIAL WELLBEING SCAN

2.5.1 HOUSEHOLD INCOME

Household Income; St. Mary's CSD and Rest of Nova Scotia (2015)					
Measure of Household Income	St. Mary's CSD		Rest of Nova Scotia		St. Mary's CSD Hld. Inc. as % of RoNS
	\$	% Diff. Ave. Vs. Median	\$	% Diff. Ave. Vs. Median	
Median total income of hlds	\$ 49,920	34.9%	\$ 60,792	26.0%	82.1%
Average total income of hlds	\$ 67,338		\$ 76,621		
Median after-tax income of hlds	\$ 45,495	25.2%	\$ 53,149	18.8%	85.6%
Average after-tax income of hlds	\$ 56,980		\$ 63,150		
Median total income of one-person hlds	\$ 24,597	20.6%	\$ 30,393	30.0%	80.9%
Average total income of one-person hlds	\$ 29,660		\$ 39,525		
Median after-tax income of one-person hlds	\$ 23,232	13.2%	\$ 27,523	19.5%	84.4%
Average after-tax income of one-person hlds	\$ 26,299		\$ 32,894		
Median total income of two-or-more-person hlds	\$ 66,091	25.2%	\$ 77,164	19.4%	85.6%
Average total income of two-or-more-person hlds	\$ 82,718		\$ 92,166		
Median after-tax income, two-or-more-person hlds	\$ 58,342	19.1%	\$ 66,559	13.9%	87.7%
Average after-tax income, two-or-more-person hlds	\$ 69,504		\$ 75,829		

Source: Census and *Jozsa Management & Economics* (Totals may not add due to rounding.)

The exhibit above, *Household Income; St. Mary's CSD and Rest of Nova Scotia (2015)*, shows that median after-tax incomes of households in St. Mary's are about 86% of those in the RoNS.

The gap in after-tax income is almost entirely due to the lower average number of weeks worked in St. Mary's (35 weeks) versus the RoNS (41.5 weeks). This suggests that wage rates in the Municipality are comparable to those in the rest of Nova Scotia.

As noted in the labour force scan the lower average of weeks worked in St. Mary's suggests that businesses are working below capacity. Hence, increased economic activity due to indirect and induced impacts will likely show up as increases in the number of weeks worked and improved profitability of businesses rather than discrete new jobs.

2.5.2 AFTER TAX HOUSEHOLD INCOME GROUPS

The exhibit at right, *After-Tax Household Income Groups, 2015*, shows that 55.5% of resident households in The Municipality are in the two lower income tranches compared to 46.8% in the rest of Nova Scotia.

Conversely, only 25.5% of resident households in the Municipality are in the two higher income tranches compared to 34.2% in the rest of Nova Scotia.

Naturally, if even a small number of

After-Tax Household Income Groups, 2015		
Income Group	% of Households	
	St Mary's CSD	Rest of NS
Up to \$29,999	28.4%	23.5%
\$30,000 to \$49,999	27.0%	23.3%
\$50,000 to \$69,999	18.0%	19.0%
\$70,000 to \$99,999	16.6%	18.2%
\$100,000 and higher	10.0%	16.0%
	100.0%	100.0%

Source: Census and *Jozsa Management & Economics* (Totals may not add due to rounding.)

residents of the municipality are able to win jobs at the mine, which will pay on average about \$84,500 per year, the household income profile of resident households in the municipality could change significantly for the better.

This fact makes it even more important that the proponent be convinced to organize local job fairs and to commit to upgrading training that will enable more people from the local area to win jobs at the mine.

2.5.3 PREVALENCE OF LOW AFTER TAX INCOME¹ (LIM-AT), 2015

Prevalence of Low After Tax Income (LIM-AT), 2015				
Low After Tax Income Persons	St. Mary's CSD		Rest of Nova Scotia	
	#	% of Total Pop.	#	% of Total Pop.
Total Low After Tax Income Persons	440	20.1%	154,515	17.2%
0 to 17 years	80	3.7%	35,445	4.0%
18 to 64 years	190	8.7%	88,165	9.8%
65 years and over	170	7.8%	30,905	3.4%

Source: Census and *Jozsa Management & Economics* (Totals may not add due to rounding.)

The exhibit above, Prevalence of Low After-Tax Income (LIM-AT), 2015, shows that the overall percentage of persons living in low after-tax households in St. Mary's is higher than it is in the RoNS.

The difference in the overall percentage of low income persons compared to the RoNS is due almost entirely to very high percentage of persons 65 years old and older living in low after-tax households.

It is highly unlikely that persons over 65 years old will directly benefit financially from any growth caused by the mine.

However, the increase in the tax base for the years the mine is open will provide the Municipality with increased revenue, some of which could be used to expand services for seniors to mitigate the effects associated with low after-tax income.

¹ The Low-income measure, after tax, (LIM-AT) refers to a fixed percentage (50%) of median adjusted after-tax income of private households. The household after-tax income is for different household sizes reflects the fact that a household's needs increase, but at a decreasing rate, as the number of members increases. Income of private households. The household after-tax income is for different household sizes reflects the fact that a household's needs increase, but at a decreasing rate, as the number of members increases.

3 SOCIO-ECONOMIC IMPACTS OF THE MINE

Economic impacts of the mine will stem from the:

- development of the mine, which is scheduled to take about one year;
- operation of the mine, with an expected life of about six years; and
- reclamation of the mine site, expected to take from one to three years.

Impacts were estimated by drawing data from documentation describing the Cochrane Hill project as of September 2018, from Atlantic Gold's corporate presentation of June 2019 and from similar reclamation projects in other jurisdictions.

The proprietary inter-regional input-output impact model of Jozsa Management & Economics was used to calculate the overall impacts, from which estimates of effects on St. Mary's can be drawn.

3.1 MINE DEVELOPMENT ECONOMIC IMPACTS

The cost of mine development was estimated based on information drawn from Atlantic Gold's:

- Cochrane Hill project description as of September 2018; and
- corporate presentation of June 2019.²

Development of the mine is scheduled to take about one year.

Atlantic Gold's corporate presentation of June 2019 states that its average All In Sustaining Cost (AISC)³ per oz. of gold production is \$713 CDN/oz and that its Cash Cost per oz of gold production is \$558 CDN.

The difference between AISC per oz and Cash Cost per oz, \$173 CDN, is assumed to represent the cost of mine development, capital maintenance, capital replacement and head office expenses. Because the Touquoy processing facility will be used for final processing we have reduced the \$173 CDN per oz by 20% (i.e. \$138.40 CDN per oz). We assume that 33.3% of the total development, capital maintenance and capital replacement budget will be spent on the initial development of the mine. The remaining 66.7% will spread over years two to six of operations.

We have further reduced mine development costs by adjusting for the lower costs of engineering, construction and mining related labour costs in Nova Scotia.

These data and assumptions yield an estimate of the cost of mine development of \$23.4 million CDN, which includes a profit before taxes allowance for companies that may be contracted by the proponent to participate in mine development.

² At the time of writing Atlantic Gold has yet to respond to requests for information that go beyond that which is contained in the 2018 project description and the June 2019 corporate presentation.

³ The AISC measure includes other expenses beyond mine operating costs such as general office spending and capital used in mine development and production. It serves as a benchmark of a company's operating efficiency. Cash costs are the costs of production, at site level, per unit of output. They include transport, refining and administration costs and royalties and exclude cash costs not at the site level (such as head office costs) and non-cash costs such as depreciation and amortization.

The exhibit below, Gross Impact of Cochrane Hill Mine Development (Initial Year) (\$ millions, 2019\$), shows the direct, indirect and induced economic impacts as calculated by Jozsa Management and Economics' proprietary inter-regional input-output impact model.

Gross Impact of Cochrane Gold Mine Development (Initial Yr*) (\$ millions, 2019\$)										\$ 23.44 million		
Region	GDP @ Market Prices			Household Income			Taxes			Jobs		
	Direct GDP	Indirect + Induced GDP	Total GDP	Direct Household Income	Indirect + Induced Household Income	Total Household Income	Income Taxes	Consumption + Property Related Taxes	Local Property & Other Taxes	Direct Jobs**	Indirect + Induced Jobs***	Total Jobs
Canada	\$12.12	\$13.64	\$25.76	\$7.73	\$6.94	\$15.17	\$4.32	\$2.14	\$0.75	91	150	241
Federal Government							\$ 2.70	\$ 0.79				
Nova Scotia	\$ 12.12	\$ 8.13	\$ 20.25	\$ 7.73	\$ 4.08	\$ 12.43	\$ 1.32	\$ 1.12	\$ 0.58	91	92	184
Rest of Atlantic Canada	\$ -	\$ 0.77	\$ 0.77	\$ -	\$ 0.40	\$ 0.34	\$ 0.04	\$ 0.05	\$ 0.01	-	9	9
Ontario + Quebec	\$ -	\$ 3.78	\$ 3.78	\$ -	\$ 1.96	\$ 1.94	\$ 0.22	\$ 0.14	\$ 0.14	-	39	39
West and Territories	\$ -	\$ 0.96	\$ 0.96	\$ -	\$ 0.49	\$ 0.46	\$ 0.05	\$ 0.04	\$ 0.02	-	9	9

* Annual impacts in years 2 to 6 are 40% of initial year impacts.
** 2,132 hours per direct job person year
*** Most indirect and induced jobs are less than one standard person year (2,000 hrs.).
Source: Jozsa Management & Economics

Mine development will create about 91 direct jobs. Each direct job will pay about \$84,522, not including supplementary labour income, for 2,132 hours of work. Mine development is assumed to operate on the same 12-hour workday, four days on and four days off as is proposed for the operation of the mine.

About 92 indirect and induced jobs will be created throughout Nova Scotia. The exhibit, right, Mine Development (Initial Year) Indirect and Induced Jobs in Nova Scotia by Sector, shows the breakdown of spinoff jobs by economic sector and the household income earned per job in each of the sectors.

Because development costs have been front and loaded to allow for initial mine development direct and spinoff impacts due to capital maintenance and capital replacement in succeeding years of operation will amount to about 40% of those experienced during the initial year of mine development.

Mine Development (Initial Year*) Indirect and Induced Jobs* in Nova Scotia by Sector			
Sector	Jobs**	Household Income per Job	Ave. Hrs. per Week
Crop and Animal Production	1.0	\$ 38,703	41.3
Forestry and Logging	0.5	\$ 65,978	49.4
Fishing, Hunting and Trapping	0.4	\$ 65,978	49.4
Support Activities for Agriculture and Forestry	0.1	\$ 36,980	35.7
Mining and Oil and Gas Extraction	0.3	\$ 65,978	49.4
Utilities	0.9	\$ 66,448	38.9
Construction	1.3	\$ 52,701	41.6
Manufacturing	8.6	\$ 58,628	40.3
Wholesale Trade	2.7	\$ 37,031	36.1
Retail Trade	19.0	\$ 37,031	36.1
Transportation and Warehousing	2.7	\$ 53,232	41.2
Information and Cultural Industries	2.6	\$ 44,445	34.9
Finance Insurance & Real Estate	8.2	\$ 43,585	36.8
Professional, Scientific & Professional Ser.	7.5	\$ 61,896	38.0
Admin & Support, Waste Mgt. & Remediation	6.2	\$ 34,643	37.8
Education Services	0.4	\$ 57,410	34.7
Health Care and Social Assistance	8.5	\$ 48,725	35.5
Arts, Entertainment and Recreation	2.9	\$ 44,445	34.9
Accommodation and Food Services	6.7	\$ 23,242	31.8
Other Services (except public administration)	6.7	\$ 36,980	35.7
Non-Profit Institutions Serving Households	2.5	\$ 36,980	35.7
Government Sector	2.4	\$ 66,974	37.7
Total	92.2		37.4

* Mine development costs are frontend weighted. Years 2 to 6 impacts are assumed to be 40% of initial development.
** Most indirect and induced jobs are less than one standard person year (2,000 hrs.) in duration per year.
Source: Jozsa Management & Economics

3.2 MINE OPERATION ECONOMIC IMPACTS

Because the Touquoy processing facility will be used for final processing, we have reduced the Cash Cost per oz of gold production by 20% from \$558 CDN per oz to \$446.40 CDN per ounce of gold production. We assume that 1/6 of the estimated 607,000 ounces of gold reserves will be mined during each of the six years of operation.

These assumptions yield a cash operating cost per year at the Cochrane Hill mine site of about \$45.16 million CDN. With the addition of an assumption for a modest operating gross margin before taxes, the total economic input cost for each operating year amounts to about \$65.77 million CDN.

The exhibit below, *Gross Impact of Cochrane Hill Mine Operations Annual (\$ million, 2019\$)*, shows the annual direct, indirect and induced operations economic impacts as calculated by Jozsa Management and Economics' proprietary inter-regional input-output impact model.

Gross Impact of Cochrane Gold Mine Operations Annual (\$ millions, 2019\$)										\$ 65.77 million		
Region	GDP @ Market Prices			Household Income			Taxes			Jobs		
	Direct GDP	Indirect + Induced GDP	Total GDP	Direct Household Income	Indirect + Induced Household Income	Total Household Income	Income Taxes	Consumption + Property Related Taxes	Local Property & Other Taxes	Direct Jobs*	Indirect + Induced Jobs**	Total Jobs
Canada	\$42.98	\$29.14	\$72.12	\$18.59	\$14.16	\$32.76	\$12.14	\$6.04	\$2.08	220	306	526
Federal Government							\$ 7.55	\$ 2.21				
Nova Scotia	\$ 42.98	\$ 18.10	\$ 61.08	\$ 18.59	\$ 8.54	\$ 27.14	\$ 3.97	\$ 3.39	\$ 1.74	220	193	413
Rest of Atlantic Canada	\$ -	\$ 1.80	\$ 1.80	\$ -	\$ 0.87	\$ 0.87	\$ 0.10	\$ 0.11	\$ 0.03	-	19	19
Ontario + Quebec	\$ -	\$ 7.46	\$ 7.46	\$ -	\$ 3.83	\$ 3.83	\$ 0.43	\$ 0.27	\$ 0.28	-	77	77
West and Territories	\$ -	\$ 1.78	\$ 1.78	\$ -	\$ 0.92	\$ 0.92	\$ 0.08	\$ 0.07	\$ 0.04	-	17	17
* 2,132 hours per direct job person year												
** Most indirect and induced jobs are less than one standard person year (2,000 hrs.) in duration per year.												
Source: <i>Jozsa Management & Economics</i>												

Mine operations will create about 220 direct jobs and each direct job will pay about \$84,522, not including supplementary labour income, for 2,132 hours of work. About 110 persons will work on site each day with each shift of 55 persons working a 12-hour day.

Total Gross Domestic Product (GDP) at market prices will amount to about \$72.12 million during each operating year, of which about \$18.59 million will accrue as household income (not including supplementary labour income (i.e. benefits)).

About 193 indirect and induced jobs will be created throughout Nova Scotia. The exhibit, right, Mine Operations Indirect and Induced Jobs in Nova Scotia by Sector (Annual), shows the breakdown of spinoff jobs by economic sector and the household income earned per job in each sector.

About 193 jobs will be created by spinoff effects during each operating year, at about \$44.3 thousand per average work year based on an average workweek of 37.0 hours.

Mine Operations Indirect and Induced Jobs* in Nova Scotia by Sector (Annual)			
Sector	Jobs*	Household Income per Job	Ave. Hours per Week
Crop and Animal Production	2.1	\$ 38,373	41.3
Forestry and Logging	1.0	\$ 65,417	49.4
Fishing, Hunting and Trapping	0.8	\$ 65,417	49.4
Support Activities for Agriculture and Forestry	0.3	\$ 36,666	35.7
Mining and Oil and Gas Extraction	2.1	\$ 65,417	49.4
Utilities	5.1	\$ 65,883	38.9
Construction	4.7	\$ 52,252	41.6
Manufacturing	16.9	\$ 58,129	40.3
Wholesale Trade	5.6	\$ 36,716	36.1
Retail Trade	39.6	\$ 36,716	36.1
Transportation and Warehousing	5.9	\$ 52,779	41.2
Information and Cultural Industries	4.7	\$ 44,067	34.9
Finance Insurance & Real Estate	16.8	\$ 43,214	36.8
Professional, Scientific & Professional Ser.	12.8	\$ 61,370	38.0
Admin & Support, Waste Mgt. & Remediation	13.3	\$ 34,348	37.8
Education Services	0.8	\$ 56,921	34.7
Health Care and Social Assistance	18.3	\$ 48,310	35.5
Arts, Entertainment and Recreation	5.2	\$ 44,067	34.9
Accommodation and Food Services	14.5	\$ 23,045	31.8
Other Services (except public administration)	12.0	\$ 36,666	35.7
Non-Profit Institutions Serving Households	5.3	\$ 36,666	35.7
Government Sector	5.6	\$ 66,404	37.7
Total	193.1	\$ 44,237	37.0

* Most indirect and induced jobs are less than one standard person year (2,000 hrs.).
Sources: Jozsa Management & Economics and
<https://www150.statcan.gc.ca/t1/b11/en/cv.action?pid=3610048901>

3.3 MINE RECLAMATION IMPACTS

According to the project description at closure, all facilities will be removed, disturbed lands rehabilitated, and the property returned to otherwise functional use according to approved reclamation plans, accepted practices at the time of closure, and in accordance with the general wishes of the community and Mi'kmaq regarding final land use.

The cost of reclamation was estimated based on our assumption that the footprint of the mine would be returned to a condition functionally equivalent to current conditions at the proposed site.

We used the publication "Guidance For Estimating Reclamation Costs For Part 3 - Minimal Impact Exploration And Minimal Impact Mining And Part 4 - Regular Exploration Permit Applications"⁴ published by the New Mexico Department of Mines to estimate the cost of returning the mine site to the functional equivalent of its current conditions.

The costs assume that all surface disturbances will be reclaimed via re-grading, backfilling, reseeding and replanting as necessary. Reclamation includes:

- the removal of all facilities;
- the treatment of drill pits, access roads, borrow areas, drainage crossings, culvert removal, compacted overland routes, potential runoff; and
- the disposal of all wastes associated with the mine exploration, development, operation and reclamation activities.

The costs also include includes a 40% add-on to cover the indirect costs.

Based on the information contained in the above noted document the cost in 2019\$ CDN is assumed to be about \$21,456 per hectare.

The mine's footprint will cover 241 hectares and therefore the total cost of reclamation is assumed to be about \$5.17 million CDN (2019\$).

⁴ http://www.emnrd.state.nm.us/MMD/MARP/documents/MMD_Part3FAGuidelines_Sept2013.pdf

The exhibit below, Gross Impact of Cochrane Gold Mine Reclamation (1 to 3 Yrs.) (\$ millions, 2019\$), shows the annual direct, indirect and induced reclamation economic impacts as calculated by Jozsa Management and Economics' proprietary inter-regional input-output impact model. The impacts will occur over a period of one to three years depending on the rate at which the reclamation can be completed.

Gross Impact of Cochrane Gold Mine Reclamation (1 to 3 Yrs) (\$ millions, 2019\$)										\$ 5.17 million		
Region	GDP @ Market Prices			Household Income			Taxes			Jobs		
	Direct GDP	Indirect + Induced GDP	Total GDP	Direct Household Income	Indirect + Induced Household Income	Total Household Income	Income Taxes	Consumption + Property Related Taxes	Local Property & Other Taxes	Direct Jobs*	Indirect + Induced Jobs**	Total Jobs
Canada	\$2.76	\$3.99	\$6.75	\$2.07	\$2.18	\$4.25	\$1.02	\$0.50	\$0.17	35	47	82
Federal Government							\$ 0.63	\$ 0.19				
Nova Scotia	\$ 2.76	\$ 2.35	\$ 5.11	\$ 2.07	\$ 1.31	\$ 3.38	\$ 0.29	\$ 0.25	\$ 0.13	35	30	65
Rest of Atlantic Canada	\$ -	\$ 0.42	\$ 0.42	\$ -	\$ 0.21	\$ 0.21	\$ 0.02	\$ 0.03	\$ 0.01	-	5	5
Ontario + Quebec	\$ -	\$ 0.98	\$ 0.98	\$ -	\$ 0.52	\$ 0.52	\$ 0.06	\$ 0.04	\$ 0.04	-	11	11
West and Territories	\$ -	\$ 0.24	\$ 0.24	\$ -	\$ 0.14	\$ 0.14	\$ 0.01	\$ 0.01	\$ 0.005	-	3	3
* Direct jobs are person years, 2,000 hours.			** Most indirect and induced jobs are less than one standard person year (2,000 hrs.).									
Source: <u>Jozsa Management & Economics</u>												

Total Nova Scotia Gross Domestic Product (GDP) at market prices will amount to about \$6.75 million, of which about \$2.07 million will accrue as household income (not including supplementary labour income (i.e. benefits).

Reclamation will create about 35.1 direct jobs in Nova Scotia. Each direct job will pay about \$59,019, not including supplementary labour income, for 2,206 hours of work.

About 29.5 indirect and induced jobs will be created throughout Nova Scotia. The exhibit, right, Mine Reclamation Indirect and Induced Jobs in Nova Scotia by Sector, shows the breakdown of spinoff jobs by economic sector and the household income earned per job in each sector.

The average spinoff job will provide household income of about \$44.2 thousand, not including benefits, for an average work year of about 2,002 hours.

Sector	Jobs	Household Income per Job	Ave. Hrs. per Week
Crop and Animal Production	1.9	\$ 35,519	41.3
Forestry and Logging	7.6	\$ 60,550	49.4
Fishing, Hunting and Trapping	0.1	\$ 60,550	49.4
Support Activities for Agriculture and Forestry	0.2	\$ 33,938	35.7
Mining and Oil and Gas Extraction	0.0	\$ 60,550	49.4
Utilities	0.2	\$ 60,981	38.9
Construction	0.3	\$ 48,365	41.6
Manufacturing	1.1	\$ 53,805	40.3
Wholesale Trade	0.8	\$ 33,984	36.1
Retail Trade	4.8	\$ 33,984	36.1
Transportation and Warehousing	0.7	\$ 48,852	41.2
Information and Cultural Industries	0.5	\$ 40,788	34.9
Finance Insurance & Real Estate	1.9	\$ 39,999	36.8
Professional, Scientific & Professional Ser.	0.9	\$ 56,804	38.0
Admin & Support, Waste Mgt. & Remediation	0.9	\$ 31,793	37.8
Education Services	0.1	\$ 52,687	34.7
Health Care and Social Assistance	2.2	\$ 44,716	35.5
Arts, Entertainment and Recreation	0.7	\$ 40,788	34.9
Accommodation and Food Services	1.8	\$ 21,330	31.8
Other Services (except public administration)	1.8	\$ 33,938	35.7
Non-Profit Institutions Serving Households	0.6	\$ 33,938	35.7
Government Sector	0.5	\$ 61,465	37.7
Total	29.5	\$ 44,237	40.0

* Most indirect and induced jobs are less than one standard person year (2,000 hrs.) in duration per year.

Sources: Jozsa Management & Economics and <https://www150.statcan.gc.ca/t1/tb11/en/cv.action?pid=3610048901>

3.4 EMPLOYMENT IMPACTS FOR ST. MARY'S RESIDENTS

Employment impacts of the mine will stem from the:

- development of the mine, which is scheduled to take about one year;
- operation of the mine, with an expected life of about six years; and
- reclamation of the mine site, expected to take from one to three years.
- direct job impacts are assumed to be full-time equivalent jobs.

Spinoff job impacts are assumed to cover about 1,907 hours on average per year, about 95% of a typical full-time job.

3.4.1 MINE DEVELOPMENT

Mine development will create about:

- 91 direct jobs each of which will pay about \$84,522, not including supplementary labour income, for 2,132 hours of work; and
- 92 indirect and induced jobs throughout Nova Scotia.

All of the job impacts occur only during the mine development period.

3.4.1.1 CAPTURING DIRECT JOBS FROM MINE DEVELOPMENT

Most development direct jobs will be construction type jobs (trades, transport and equipment operators).

Experienced trades and transport and equipment operator labour in the Municipality declined significantly from 2006 to 2016. The large declines suggest that if local residents are to gain employment during mine development there will need to be skills upgrading and training programs.

Based on employment rates in the Municipality only about 50 to 60 experienced construction related labour, trades, transport and equipment operator personnel may be available for employment during mine development. It is highly unlikely that all available experienced labour, regardless of training, will be hired for the development of the mine if for no other reason than even with training the skill set might not meet certain specialized needs.

Moreover, a large percentage of the experienced labour is 65 years old and older. A good portion of these people might not be willing or physically able to undertake the type of work needed to develop the mine.

The capture of direct mine development jobs could be enhanced if the project proponent is willing:

- to engage in skills upgrading programs for local labour, and
- to create bid packages that can be effectively bid upon by local firms.

Residents of the Municipality might capture, at most, 20% of the direct mine development jobs.

3.4.1.2 CAPTURING SPINOFF JOBS FROM MINE DEVELOPMENT

About 92 indirect and induced jobs will be created throughout Nova Scotia by the development of the mine.

Assuming that no special efforts are made by the proponent to purchase goods and services

locally and given:

- the very small and narrow economic base of St. Mary's, compared to the rest of Nova Scotia; and
- the economic sectors that will be most affected by spinoff jobs,

St. Mary's can expect to capture 1% to 4% of the spinoff activity.

Moreover, most of the captured spinoff activity will take the form of increases in the number of workweeks in existing jobs from the current average of about 35 weeks per year.

The capture of spinoff mine development jobs could be enhanced if the project proponent is willing:

- to contract-out elements of mine development; and
- to create bid packages that can be effectively bid upon by local firms.

3.4.2 MINE OPERATIONS

Mine operations will create, during each operating year, about:

- 220 direct fulltime jobs in Nova Scotia; and
- 193 spinoff jobs in Nova Scotia.

3.4.2.1 CAPTURING DIRECT JOBS FROM MINE OPERATIONS

Mine operations will create about 220 direct jobs and each direct job will pay about \$84,522, not including supplementary labour income, for 2,132 hours of work.

Most operations jobs will require the job skills associated with:

- skilled trades person;
- transport and equipment operators & related jobs;
- mining, natural resources; agriculture & related production jobs; and
- manufacturing related jobs.

Experienced workers in these occupations declined significantly from 2006 to 2016.

The large declines suggests that if local residents are to gain employment during mine operations there will need to be skills upgrading and training programs.

Given estimates of current employment, about 120 experienced workers in these occupations in the Municipality may be available for employment at the mine. Some operations jobs could be filled by carrying over some workers from the mine development phase.

It is highly unlikely that all available experienced labour, regardless of training, will be hired for the operation of the mine if for no other reason than even with training the available skill sets might not meet certain specialized needs. Moreover, a large percentage of the experienced labour is 65 years old and older. A good portion of these people might not be willing or physically able to undertake the type of work needed to operate the mine.

The capture of direct mine operations jobs could be enhanced if the project proponent is willing:

- to engage in skills upgrading programs for local labour, and
- to create bid packages for goods and services used by the mine that can be effectively bid upon by local firms.

Residents may be able to capture, at most, 30% of the direct operations jobs.

3.4.2.2 CAPTURING SPINOFF JOBS FROM MINE OPERATIONS

About 193 indirect and induced jobs will be created throughout Nova Scotia by the operation of the mine.

Assuming that no special efforts are made by the proponent to purchase goods and services locally and given:

- the very small and narrow economic base of St. Mary's, compared to the rest of Nova Scotia; and
 - the economic sectors that will be most affected by spinoff jobs,
- St. Mary's can expect to capture 1% to 4% of the spinoff activity.

Moreover, most of the captured spinoff activity will take the form of increases in the number of workweeks in existing jobs from the current average of about 35 weeks per year.

The capture of spinoff mine operation jobs could be enhanced if the project proponent is willing:

- to contract-out elements of mine operation; and
- to create bid packages that can be effectively bid upon by local firms.

3.4.3 MINE RECLAMATION

Mine reclamation will create about:

- 35 direct fulltime equivalent jobs; and
- 30 spinoff jobs throughout Nova Scotia.

All of the job impacts occur only during mine reclamation. If reclamation takes longer than one year, the job impacts will be spread over the extended reclamation. For example, if reclamation extends over two years then in each year 17 to 18 direct jobs would be created and about 15 spinoff jobs would be created.

3.4.3.1 CAPTURING DIRECT JOBS FROM MINE RECLAMATION

Most reclamation jobs will require skills associated with trades persons, transport and equipment operators & related occupations and natural resources and agriculture & related production occupations.

Experienced workers in these occupations declined significantly from 2006 to 2016.

The large declines suggests that if local residents are to gain employment during mine reclamation there will need to be skills upgrading and training programs.

Given estimates of current employment, about 100 experienced workers in these occupations in the Municipality may be available for employment during mine reclamation. However, if local residents capture some of the direct operations jobs they may be carried over to participate in mine reclamation.

Residents may be able to capture up to 40% of the direct reclamation jobs.

3.4.3.2 CAPTURING SPINOFF JOBS FROM MINE RECLAMATION

About 30 indirect and induced jobs will be created throughout Nova Scotia by the reclamation of the mine.

Assuming that no special efforts are made by the proponent to purchase goods and services locally and given:

- the very small and narrow economic base of St. Mary's, compared to the rest of Nova Scotia; and
- the economic sectors that will be most affected by spinoff jobs,

St. Mary's can expect to capture 1% to 4% of the spinoff activity.

Moreover, most of the captured spinoff activity will take the form of increases in the number of workweeks in existing jobs from the current average of about 35 weeks per year.

The capture of spinoff mine reclamation jobs could be enhanced if the project proponent is willing:

- to contract-out elements of mine reclamation; and
- to create bid packages that can be effectively bid upon by local firms.

3.5 POPULATION IMPACTS

The impacts on St. Mary's population will be very limited for the following reasons:

- All jobs (direct and spinoff) created by the Cochrane Hill gold mine project will be temporary because the project has a total lifecycle of about seven years (or up to nine years if reclamation takes three years instead of one).
- People from outside St. Mary's are used to commuting into St. Mary's for work. Over 20% of workers in St. Mary's are from locations outside of the Municipality. Of the 20%, almost 30% come from the Guysborough Municipal District; and almost 60% come from the Pictou and Antigonish Census Divisions.
- Almost all of the spinoff activity captured by St. Mary's will be absorbed by increased productivity among current workers and increasing the average weeks worked towards or beyond the Nova Scotia average.

The very large supply of secondary residences in St. Mary's suggests that some workers from outside the local area may be able to rent accommodations for the duration of the project, thus having only a temporary effect on population.

It may be possible to increase the number of permanent residents if the Municipality would take it upon itself to identify former residents who have moved away for work and who may be able to compete for jobs at the mine. Because of their personal connection to the Municipality may be willing to take the risk of moving back to St. Mary's even though jobs at the mine will only last from 7 to 9 years.

3.6 RESIDENTIAL REAL ESTATE IMPACTS

The impacts on the value of current properties will stem mainly from the following factors:

- noise, dust, light pollution and traffic generated by the project and view planes into the project; and
- subjective perceptions of the effect of the mine of the peaceful use of current properties.

Results of the noise, dust, light pollution, traffic and view plane studies are not yet available hence no conclusions can be drawn at this time regarding impacts on current property values.

The impacts on the potential for new residential property investment will stem from the same factors.

The attraction of new secondary residence properties could be significantly affected because the mere existence of a mine may dissuade people seeking to build a cottage or second home.

On the other hand, because of the prospects for new employment in the Municipality property values might be positively affected by people seeking to locate closer to the prospects for employment.

The effects, negative and positive, will be extremely:

- site specific (based on the extent to which noise, dust, light pollution, traffic and visibility of the mine are present at a specific location); and
- buyer specific (for example, workers at the mine could bring positive impacts to property values if they are looking to locate closer to their employment while potential buyers looking for retirement or recreational properties might price down potential retirement or recreational properties due to actual or suspected impacts of the mine on the local environment).

3.7 MUNICIPAL TAXATION IMPACTS

All commercial municipal tax revenue effects will be temporary because the project has a finite lifecycle.

During operations the project will be subject to commercial assessment.

Once the site is reclaimed it will likely be assessed as at present.

The project, like all commercial properties, will be assessed as the sum of land and construction costs (not including machinery and equipment).

The cost to develop the mine is estimated at \$23.44 million. The input – output analysis provides a reasonable breakdown of the goods and services and labour needed to develop the mine. Once the value of machinery and equipment and the labour associated with installing the machinery and equipment are deducted from the total cost it is reasonable to assume that the assessed commercial value will be about \$14,550,315 (2019\$). Based on this assessed value and the commercial tax rate for 2019 tax revenue, per operating year, will be about \$328,837.

Details of the components of the mine and their cost have not yet been provided to the consultants. Once they become available, a more accurate estimate of municipal tax revenue can be produced.

3.8 EFFECTS ON PUBLIC ROADS AND SAFETY

The proponent's traffic study was not complete at the time of writing. The following traffic estimates are based on the project description of September 2018:

- Ore concentrate will be shipped to Moose River for final processing via eight axel C Train trucks carrying a maximum load of, 28.5 tons. Six round trips will be made per day traveling south on Highway 7.
- A flat deck truck, carrying a maximum load of five tons will make one round-trip per week traveling south on Highway 7.
- Miscellaneous commercial traffic will amount to about 12 round trips per day
- Employee traffic will amount to about 110 round trips per day.

Overall, there will be about 128 (7 truck, 121 passenger and small commercial) vehicle roundtrips per day associated with the operation of the mine. Assuming that about 50% of the passenger and small commercial vehicle traffic comes from the North the average annual daily traffic (AADT) on the section of Highway 7 between the mine site and Sherbrooke will rise to about 1,045 from the current 910 AADT. Of the 135 increase in AADT about 12 will be eight axel C Train trucks and the remainder will be passenger and small commercial vehicles.

Virtually all vehicle trips will use all season, all weather Provincial highways.

Preliminary analysis indicates that Highway 7 in St. Mary's has sufficient capacity and capability to handle increased traffic without abnormal impacts on road conditions or adverse effects on public safety. The consultants requested but did not receive information from Transportation and Infrastructure Renewal Nova Scotia regarding:

- the realignment of a section of Highway 7 near the mine worksite;
- safety implications of the realignment of a section of Highway 7 near the mine worksite;
- effects of mine related traffic on the condition and safety of provincial highways; and
- potential need for location specific changes to Highway 7 in the Municipality needed to safely handle eight axel truck traffic.

3.9 POTENTIAL IMPACTS ON BUSINESS DEVELOPMENT

3.9.1 POTENTIAL IMPACTS ON CURRENT BUSINESSES

Consideration of the impact of the proposed Cochrane Hill Gold Mine on current businesses in the Municipality involved a review of local businesses as listed in the business directory on the Municipality's web site.

Each business was considered individually with respect to the services/goods they provide and the potential opportunities, as known, projected, or assumed based on information provided by the mine proponent in the project description. Many questions concerning the project's possible goods and services requirements for the proposed development were left unanswered by the proponent. In these cases, potential supplier opportunities for the three phases of the project have been identified based on the information available and consideration of similar projects. Local businesses considered as possible suppliers and the resulting impact on their businesses have been assessed. Until the proponent's final development plans are known the full scope of potential and real businesses opportunities

will remain unconfirmed.

Businesses and organizations in the Municipality were grouped in seven general categories:

- retail;
- commercial/industrial;
- hospitality;
- accommodations;
- personal and business services;
- primarily tourism oriented ; and
- other.

The St. Mary's Business Directory lists 56 businesses and organizations. The consultants assigned each of them to a major category based on their core activity. In some cases, one business might have two or more core activities (for example, motel and restaurant) and such a business would be recorded in two of the major categories.

Each company within the main categories was reviewed with respect to the likelihood that they could provided one of more of the anticipated services or goods required by the proposed mine project. The impact on sales/business activity was then considered on a scale of 1-5 with:

- 1 indicating a potential major positive impact;
- 2 indicating a minor positive impact;
- 3 indicating no impact;
- 4 indicating a minor negative impact; and
- 5 indicating a potential major negative impact.

The practical meanings of the impact categories are as follows:

- 1 - major positive impact, the company would significantly increase sales, employment and likely require capital expansion and investment as a result of business received from the mine project;
- 2- minor positive impact, sales and business activity would increase but the increase would likely be absorbed within the current company structure with no increase in employees or capital investment;
- 3-no impact, there would be very little or no impact on the business' operation;
- 4-minor negative impact, the business could be negatively impacted by some phase of the mine project and sales/business activity would decline but not significantly; and
- 5- major negative impact, the operations business sales/activity could decline significantly requiring staff layoff and threatening future growth or the very existence of the organisation.

Category impact ratings are as follows (the number in brackets represents the number of companies/organizations in this category):

- Retail (7) – minor positive impact.
- Commercial/industrial (17) – minor positive impact to no impact (some companies such as construction, demolition and trucking could see major positive impacts).
- Hospitality (2) – minor positive impact.
- Accommodations (7) - no impact (net) to minor negative impact (potential increase in sales due to project operations potentially offset to some degree by a loss of tourism

visitors.)

- Personal and Business Services (12) - minor positive impact to no impact
- Tourism (7)- minor negative impact to major negative impact (total of 16 when hospitality and accommodation included).
- Other (8) – no impact to major negative impact.

The potential positive impacts on existing businesses would be increased if the proponent is willing:

- to contract out for goods and services; and
- to scale the bid packages so that the relatively small businesses in the Municipality are able to cost-effectively bid on the contracts.

If bid packages are to be scaled so that local businesses can effectively bid on the contracts it will be necessary for the proponent to make special efforts to describe the goods and service needs of the mine and to meet with local businesses to understand their capacities to provide goods and services.

3.9.1.1 IMPACTS ON CURRENT BUSINESSES - SUMMARY

The proposed Cochrane Hill project has the potential to have a net minor positive impact on existing businesses in the Municipality. The increase in business activity will likely be absorbed within the existing business infrastructure. Given the short life of the project, it is unlikely that local businesses will undertake any addition capital investment or new hiring.

Some businesses and organisations will face the potential for significant negative impacts on their operations. Information that is more detailed is required to determine how goods and services for the project will be tendered and if local companies will be part of the process. If for whatever reason they are excluded the local positive economic impact on businesses will be significantly reduced.

The business and organizations with the most potential to gain from the mine project include trucking, electrical, fuel, mechanical, building supply, excavating, some administrative and personal services.

The business and organizations with the highest risk and potentially the most to lose are those in the tourism and recreation sector, particularly those that are closely aligned with the recreational use of the St. Mary's River.

3.9.2 POTENTIAL OPPORTUNITIES FOR NEW BUSINESSES

The mine proponent in the project summary identifies several activities that could generate new business operations if they are contracted out.

From information currently available, it would appear that potential new business opportunities could be available in the following areas:

- construction/demolition;
- heavy trucking;
- security;
- fuel servicing and storage;
- truck and vehicle maintenance;
- private road maintenance;
- snow clearance;

- office administration support services;
- physiotherapy and related personal health care services;
- staff training for operations and safety;
- driver training; and
- “Small Support Fleet” operations (mentioned but not defined in project summary).

The extent to which new businesses be created depends largely on the proponent’s willingness:

- to contract out for goods and services; and
- to scale the bid packages so that they are within the grass of new business start-ups.

3.9.2.1 OPPORTUNITIES FOR NEW BUSINESSES - SUMMARY

Based on the information provided in the proponent’s project description it does not appear that the operation of the mine would support significant, sustainable new business creation.

The proponent’s project plan, subject to interpretation, identifies the need for heavy trucking, truck drivers, a “small support fleet”, security services, explosives supply and management, fuel servicing and storage, truck and vehicle maintenance, road maintenance, snow clearance and office administration, and by implication general construction and demolition. Based on the current project description it appears that most of these requirements will be provided in-house.

Heavy truck hauling, explosive servicing and fuel delivery and general construction and demolition may be contracted out. This however has yet to be confirmed.

Existing suppliers and contractors currently supporting the proponent’s other mine operations in Nova Scotia could absorb most or all of the required goods and services and additional operational requirements for Cochrane Hill.

3.10 IMPACTS ON TOURISM

It is estimated that tourism revenues were \$2.6 billion in 2016. Approximately 5% of Nova Scotians are employed in the Tourism industry. The tourism GDP is larger than three of Nova Scotia’s primary industries combined, mining, agriculture and forestry. Non-residents visitors inject new money into the economy with positive spin off benefits. Tourism Nova Scotia has set an industry goal to earn \$4 billion in tourism revenues by 2024.

The St. Mary’s community has an opportunity to share in these tourism expansion plans.

The 2015 Nova Scotia Visitor Exit Survey reported that the top reasons for visiting Nova Scotia are “the scenery and natural landscapes” and visiting “the seacoast and ocean”. The presence of an open pit gold mine and related activity including truck traffic could have a significant negative impact on the Municipality’s ability to maintain existing tourist attractions and develop new attractions that would attract more tourists and lengthen the stay of all tourists.

The activities of the St. Mary’s River Association support the development of the St. Mary’s River as a recreation and tourism destination. The organisation, thru its ability to obtain grants and funding, is an effective social enterprise and a generator of economic activity.

Its current initiatives are laying the groundwork for:

- the return of the potentially lucrative salmon sport fishery; and
- enhancement of the tourism and local recreation draws associated with canoeing and kayaking.

Tourism is an enabler. Tourism can stimulate industry growth in a number of sectors including beverage and alcohol, construction, retail and restaurants, transportation, new business investment, entrepreneurship and innovation. Interaction with the tourism sector is often the first contact of potential investors.

The 2015 Nova Scotia Visitor Exit Survey identifies three main categories of visitors; people visiting for pleasure, people visiting for business reasons and people visiting friends and relatives. People visiting friends and relatives will continue to flow into Nova Scotia almost regardless of the quality and number of its tourism attractions. However, this group of tourists is barely growing in number.

The real growth is in people visiting for pleasure and first time international visitors. These visitors are most strongly influenced by the type of tourism attractions available and the quality of those attractions.

3.10.1 TOURISM ASSETS IN ST. MARY'S

If the Municipality wishes to capture a larger share of the rapidly growing volume of first-time visitors and pleasure visitors it will need to protect and develop tourism related attributes that are most valued by these types of visitors. As the most recent visitor exit survey shows these groups of visitors are most influenced by the prospects of enjoying the scenery and natural landscapes, visiting the seacoast and participating in ocean related activities. Any diminishment in the quality of these types of tourism assets will hamper the Municipality's ability to capture a larger share of the most rapidly growing tourism markets.

3.10.1.1 SOME SIGNIFICANT TOURISM AND ECONOMIC ASSETS IN ST. MARY'S

The St. Mary's region has a number of seasonal and some year-round tourist attractions. The Municipality has some key tourism assets that are mainstays for the tourism sector. These tourism assets and new ones in the final planning stages have the potential to increase the area's capture of the fastest growing tourist traveller segments.

3.10.1.1.1 SHERBROOKE VILLAGE MUSEUM

Sherbrooke Village is a well-established venue and major attraction, popular with locals and visitors alike, celebrating its 50th anniversary next year. The site provides employment and many spin-off benefits for the local economy. It is the largest museum in Nova Scotia and has seen visitor growth in recent years. It now welcomes over 30,000 visitors per annum.

Management of the Sherbrooke Village Museum estimates that the museum is responsible for tourism revenues in excess of \$13 million per year in the Municipality. This estimate does not consider additional spin-off effects of salary infusions into the local economy.

Sherbrooke Village is leading a new, groundbreaking initiative forming RICHES (the Rural Institute for Cultural Heritage and Environmental Sustainability) which will help to grow tourism locally and to make a major on-going contribution to tourism training for the entire province. The Institute will be located on land held by Sherbrook Village, which coincidentally is located next to the proposed Cochrane Hill gold mine site. RICHES is

planned for launch in 2020.

3.10.1.1.2 THE ST. MARY'S RIVER

The St. Mary's River combined with the region's natural beauty represents a tourism asset that is most sought after by pleasure visitors from the rest of Canada and first-time international visitors.

The St. Mary's River is one of two original, celebrated, salmon angling and sport fishing venues in Nova Scotia. Significant progress has been made over recent years on habitat restoration in and around the river. Over \$1 million has been invested to date and another \$1.2 million will be invested over the next three years. New Brunswick saw an estimated \$26 million in revenue from the recreational salmon fishery in 2010. By improving the quality of the St. Mary's River for salmon angling the Municipality will put itself in a stronger position to capture the economic benefits associated with the recreational salmon fishery.

The value in protecting and rehabilitating the St. Mary's River goes beyond the economic value associated with recreational salmon angling. The rehabilitation of the St. Mary's River is increasing the value of a tourism asset that is highly valued by the more rapidly growing segments of the tourism market.

3.10.1.1.3 SEASONAL LAND OWNERS

There are about 200 non-resident landowners in the Municipality. The seasonal residents are an important component of the tourism sector. It has been estimated the investment in secondary residences in the municipality amounts to over \$40 million in property to date. Based on current trends 4 to 6 seasonal homes are being built per year. Seasonal residents contribute to municipal tax revenues and to the maintenance of local businesses.

New construction by seasonal residents amounts to about \$1.0 million per year while at the same time increasing the municipal tax base.

The perception of negative impacts associated with the establishment of an open pit mine could reduce the rate of growth in the tax base due to the construction of seasonal residences.

3.10.2 THE FUTURE FOR ST. MARY'S TOURISM

The nature and quality of the tourism assets in the Municipality that are most attractive to the fastest growing segments of the tourism market suggests that tourism in the municipality has significant room to grow. The Municipality offers what pleasure tourist visitors and first time international visitors say they are looking for. Traditional attractions, led by the Sherbrooke Village Museum and other cultural, historic and outdoor recreational offerings, round out the tourism package.

Extreme care must be taken to ensure that the operation of the gold mine does not have a negative impact on the tourism assets most valued by the most rapidly growing segments of the tourism market.

3.10.2.1 POTENTIAL IMPACTS ON LOCAL TOURISM ASSETS BY THE COCHRANE HILL MINE PROJECT

The proposed Cochrane Hill Open Pit Mine Project is a potential threat to the current sustainability and future growth of the tourism sector in the Municipality.

The potential threat comes in several forms:

- Mine operations could be the source of light, dust and noise pollution.
- Containments used in the mining process could get into the waterways including the St. Mary's River.
- Regular scheduled large tandem ore trucks on the main shore highway may discourage tourists.
- The mere existence of an open pit mine is operating in the area could act as a disincentive for tourists and potential seasonal residents.

3.11 POTENTIAL LEGACY PROJECTS

On completion of major projects such as the Cochrane Hill Gold Mine, it has become common for communities to require investment by the project proponent in 'legacy projects' that help compensate the local community for its absorption of negative impacts associated with large projects.

3.11.1 LEGACY PROJECTS SUPPORTED BY THE MINE PROPONENT

Proponents may leave project specific redundant equipment, buildings or other assets to the community.

The community can propose a plan for redevelopment of all or part of the former work site into a venue for community use (e.g. parkland, community recreation area, etc.).

The community can propose a 'legacy project' that is completely removed from the development site as a special "gift" to the community in return for hosting the development project (e.g. a gold mining interpretive centre, a seniors' centre, a community meeting and recreation centre, etc.).

3.11.2 LEGACY PROJECTS SUPPORTED BY PROVINCIAL ROYALTIES ON MINERAL PRODUCTION

Legacy projects are often sponsored by senior levels of government to help compensate municipalities for their absorption of negative impacts that can be associated with large mineral extraction projects.

Municipalities do not receive direct financial benefits that stem from land based resource extraction royalties paid to a Provincial Government.

However, it is not uncommon for municipalities to successfully petition provincial governments to sponsor/develop legacy project(s) that are indirectly funded from provincial royalties.

In Nova Scotia royalties related to gold-mining are charged at 1% of the net value received by the gold producer. The net value is calculated approximately as follows. The total revenue earned by the gold producer is reduced by the value of operating costs, depreciation and municipal taxes.

Atlantic Gold's corporate presentation of June 2019 states that its average gold margin per ounce is \$969 CDN after cash costs of operation. Assuming that 1/6 of the gold reserves are mined each year of operation the annual gold margin will be about \$98,030,500. After a 30% depreciation allowance and payment of municipal taxes the net value received by the gold producer, before income taxes is approximately \$92,451,113.

Hence, the 1% royalty rate on the net value received by the gold producer results in an annual royalty of about \$924,511. However, we assume that about 20% of the value producing activity associated with mining at Cochrane Hill is undertaken at the plant it gold's existing facilities at Moose River. Therefore, strictly speaking the royalties associated with activities at Cochrane Hill will be about \$738,951 per year.

The Municipality should petition the provincial government to invest part of the \$738,951 in annual royalties in legacy projects that will help compensate the municipality for its absorption of negative impacts associated with the mining activities at Cochrane Hill.

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Prepared by: Gordon Gislason, Edna Lam, GSGislason & Associates Ltd., Vancouver Canada and Gunnar Knapp, Mouhcine Guettabi, Institute of Social & Economic Research, University of Alaska Anchorage, Anchorage U.S.A.

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Open Letter from The Seasonal Residents Community

To: Scott Beaver President

8404 Highway #7

Sherbrooke, NS B0J 3C0

St Mary's River Association

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Tourism Nova Scotia
Industry Snapshot (various years)
<https://tourismns.ca/>

Tourism Nova Scotia
Nova Scotia Visitor Exist Survey (various years)
Tourism Research
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Tourism Nova Scotia
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Windsor, Nova Scotia B0N 2T0
Phone: (902) 798-6700
<https://tourismns.ca/>

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4600 Silver Hill Rd.
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