APPENDIX Q

SOCIOECONOMIC TECHNICAL SUPPORT DOCUMENTS

Q-1 Baseline Socioeconomic Report Addendum
Q-2 Economic Modeling Report
Q-3 Draft Employee Health & Wellness Strategy

Updated Economic Modelling

Springpole Gold Project

First Mining Gold Corp.

ONS2104

Prepared by:
WSP Canada Inc.

October 2024

Updated Economic Modelling for the Springpole Gold Project

Red Lake District, Northwest Ontario
Project #ONS2104

Prepared for:

First Mining Gold Corp.
Suite 2070, 1188 West Georgia Street
Vancouver, British Columbia, V6E 4A2

Prepared by:

WSP Canada Inc.
6925 Century Avenue, Suite 600
Mississauga, Ontario, L5N 7K2
Canada
T: (905) 567-4444

TABLE OF CONTENTS

PAGE

LIST OF TABLES

LIST OF FIGURES

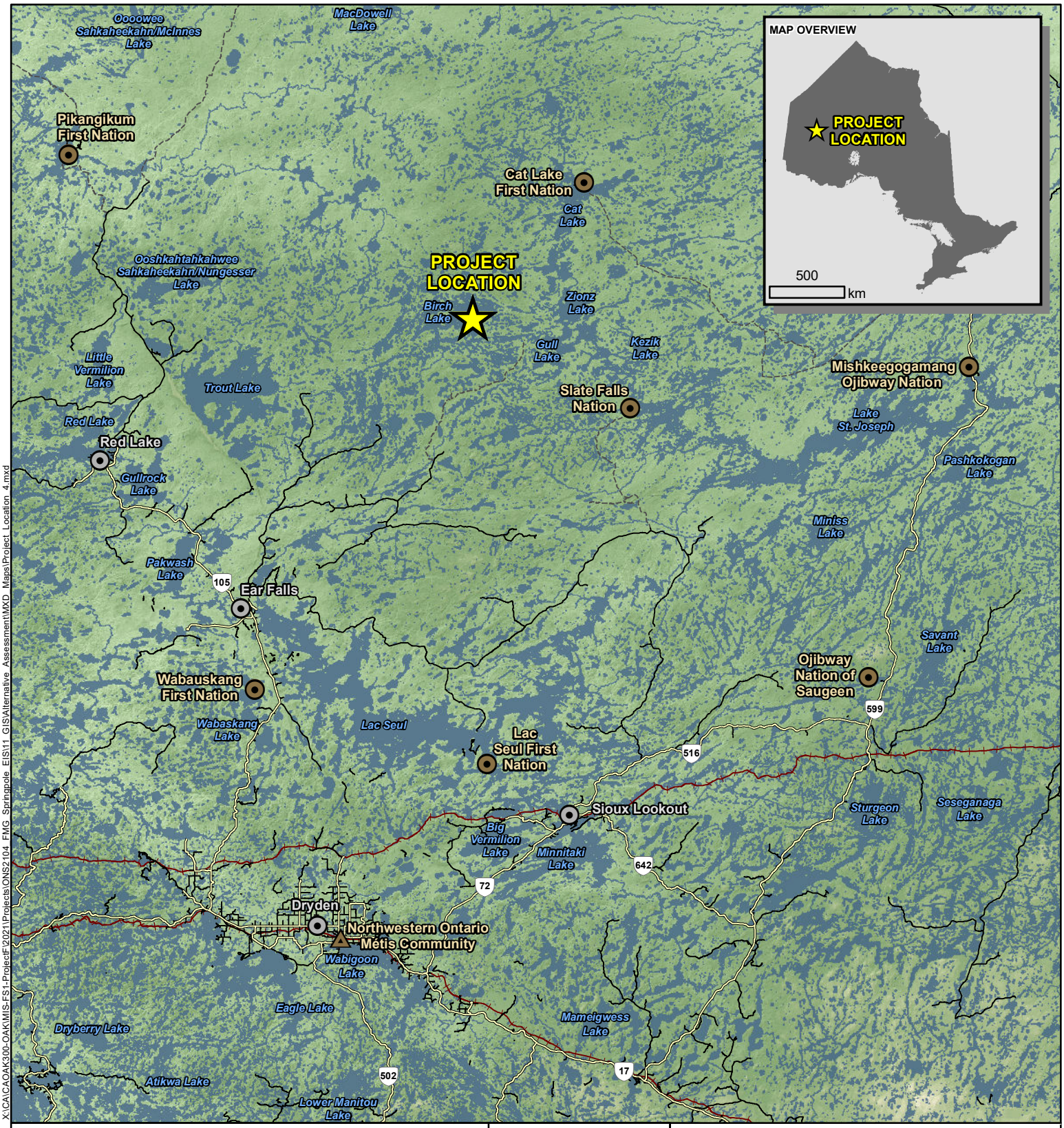
LIST OF ABBREVIATIONS

FMG	First Mining Gold Corp.
GDP	gross domestic product
Project	Springpole Gold Project

1.0 INTRODUCTION

First Mining Gold Corp. (FMG) proposes to develop, operate and eventually decommission and close an open pit gold and silver mine and ore process plant with supporting infrastructure known as the Springpole Gold Project (Project). The Project is located in a remote area of northwestern Ontario, approximately 110 kilometres (km) northeast of the Municipality of Red Lake and 145 km north of the Municipality of Sioux Lookout (Figure 1-1).

The purpose of this document is to provide the results and discussion of the economic modelling for the Springpole Gold Project (Project). The economic modelling results will be incorporated into the final Environmental Impact Statement / Environmental Assessment for the Project. An environmental assessment pursuant to the *Canadian Environmental Assessment Act, 2012* (S.C. 2012, c. 19, s. 52) and the Ontario *Environmental Assessment Act* (R.S.O. 1990, c. E.18) is required to be completed for the Project. This report is one of a series of reports prepared by WSP Canada Inc. on behalf of First Mining Gold Corp. (FMG) to describe the predicted environmental effects of the Project.



LEGEND

- Project Location
- Town
- First Nation Reserve
- Northwestern Ontario Métis Community
- Highway
- Secondary Road
- Resource / Winter Road
- Railway

0 12.5 25 50 75 100 Kilometres

NOTES:
- Topographic information extracted from LIO, MNRF.

Datum: NAD83
Projection: UTM Zone 15N

N W E S

First Mining Gold

WSP

SPRINGPOLE GOLD PROJECT

Project Location

PROJECT N°: ONS2104	**FIGURE: 1-1**
SCALE: 1:1,500,000	DATE: September 2024

2.0 METHOD: ECONOMIC MODEL

2.1 Overview of the Approach

The model used to estimate the economic effects of the Project is derived from the Dungan and Murphy (2014) "representative" project: *An Au-thentic Opportunity: The Economic Impacts of a New Gold Mine in Ontario*. Dungan and Murphy estimated, using conservative assumptions, the effect on gross domestic product (GDP), employment and government revenues of both the construction and the ongoing operation of a new gold mine in a relatively remote region of northern Ontario.

The representative project is used calculate the economic effects of the Springpole Gold Project during the construction, operations and decommissioning and closure phases. The representative project estimates the economic effects of construction and operation for a new open pit gold mine in northern Ontario. The results of the representative project can be applied to the Springpole Gold Project as they are scalable to gold mine developments of different sizes, the Project is in northern Ontario and it includes open pit development. The model calculates the economic effects associated with the additional construction, operations and closure expenditures during all phases. The model is scalable to reflect project-specific inputs, it estimates regional effects (which is not available in the Statistics Canada Input-Output model) and it has been successfully used in regulatory documents for other gold mine projects to estimate regional economic effects.

Note that Dungan and Murphy (2014) have not estimated the economic effects associated with the additional closure expenditure of the representative project. To provide an indication of the likely order of magnitude of economic effects related to the closure phase for the Springpole Gold Project, the economic effects of the construction phase have been scaled to the closure phase. This is based on the assumption that the types of expenditures during the closure phase are relatively similar to those during the construction phase and will therefore lead to similar economic effects for similar groups and regions.

2.2 Reference for the Selected Model (the representative project)

The representative project considered a new open pit gold mine with a construction cost of $750 million[1] spread over three years (after and excluding all exploration, planning, permitting and other preconstruction expenditures). The representative open pit mine would then generate sales of $300 million per year, potentially for over 20 years into the future, and employ 440 persons on site with total compensation of $142,200 per worker. The combined direct, indirect and induced economic effects of a representative open pit gold mine are extremely large. In its construction phase, the representative open pit mine would add about $183 million to Ontario GDP and generate over 1,900 jobs annually. In its production phase (i.e., operations), for each year of operation, the representative open pit mine would add approximately $300 million to Ontario GDP and increase Ontario's employment by over 1,800 at a rate of compensation per employee well above the provincial average.

The combined effect on government revenues of a new open pit gold mine is also large. In the construction phase, governments would collect a total of $60 million a year from the mine's direct, indirect and induced activity, while in the production phase this rises to $95 million per year. The provincial government's share is $25 million in the construction phase and over $38 million in the production phase.

[1] All dollar values in this document are in Canadian dollars unless otherwise specified.

2.3 Confidence and Uncertainty Related to the Modelling Approach

In the representative project model by Dungan and Murphy, the authors included a discussion of confidence / uncertainty; this discussion is summarized below. It is noted here that with the identified confidence / uncertainty in the modelling approach, the model is still appropriate and accurate to use in the economic effect assessment of the Project.

- The model uses information from the Mining Industry Human Resources Council and the National Occupational Classification system; it captures the skill mix required to perform the jobs from the creation of a new gold mine. Given the difficult nature of trying to measure the skills required in jobs across all of the sectors that are inputs into the new gold mine, the results should be viewed as reasonable estimates. The model estimates provide an important input for all parties to utilize in understanding the type of training required for local First Nation and Métis and non-Indigenous persons to participate in a new mine.
- The model estimates the economic effect on output, employment and earnings, and also on tax revenues of the various levels of government, on an annualized basis. The model attempts, in a more cautious manner, to isolate the local effects within a region of Ontario surrounding the new mine. To improve the robustness of scaling local effects from the representative project to the Springpole Gold Project, a detailed discussion on the likely extent of local effects in the region surrounding the Project site, based on local data, is provided in Section 5.0.
- During the model development, determining a representative size of mine was difficult because the size of mines in production, as well as those that have been proposed to be opened in northern Ontario, ranged from tens of millions of dollars in investment to more than $1.5 billion. In this context, the size of the Project is relatively close to that of the representative project. The annual expenditures are $250 million (representative project) versus $420 million (Springpole Gold Project) during the construction phase and annual output / sales are $300 million (representative project) versus $670 million (Springpole Gold Project) during the operations phase.
- As explained in Section 2.1, Dungan and Murphy have not estimated the economic effects of the closure phase, and so the same economic multipliers as for the construction phase have been applied for the Project. Given that the expenditure of the closure phase is very small compared to the other phases, this is considered to be acceptable for the estimate of the economic effects of the Project as a whole.

3.0 PROJECT INPUTS FOR THE ECONOMIC EFFECTS ASSESSMENT

The following Project inputs were used for the economic effects assessment. All monetary values for the Project are expressed in current prices (2023).

3.1 Construction

For the Project, it was estimated that total construction expenditure is approximately $1,058.7 million[2] or $423.5 million annually for 2.5 years (30 months). This annual mine construction expenditure represents 169 percent (%) of the representative project capital expenditures (423 ÷ 250 × 100 = 169%). Accordingly, construction economic effects of the Project are 69% higher than the representative project identified economic effects during construction[3].

Construction expenditure is expected to directly increase GDP in the province and to improve existing business in the province and the local area by allowing them to grow to supply the required goods and services, which may in turn stimulate some demographic changes in these communities and create additional labour income. Most effects on existing businesses would result from these possible population changes and labour income changes. Resident workers will have higher income, which could have positive economic effects on local businesses (i.e., increase purchases and investment). Non-resident workers are expected to stay in rental and other temporary accommodations within the local area. This will create positive economic effects on existing businesses. The direct construction expenditure and the indirect and induced affects will also increase tax revenue at all three levels of government (federal, provincial and local.

3.2 Operations

The total revenue from mine operations is estimated at $6,714.7 million[4] over 10 years, which is equivalent to approximately $671.5 million per year. This represents 224% of the representative project mine output / sales (671 ÷ 300 × 100 = 224%).

FMG also provided a detailed estimate of the workforce required during the operations phase (449 people in Springpole, compared to 440 in the representative project) and the wages for each role (see Table 3-1 for detailed breakdown). The total estimated annual employment costs (including wages, benefits and other compensation such as pension and employment insurance) is $57.4 million, which represents 92% of the representative project employment costs (57.4 ÷ 62.6 × 100 = 92%). The jobs generated by the Project will provide additional labour income that can be used to either improve housing and lifestyle or to invest in the economic development of the region. Additional income could have positive effects when used to enhance and improve lifestyle (including the positive effects on local businesses discussed under Section 3.1 on construction) or negative effects depending on spending decisions. Possible population changes and additional demand for goods and services by the Project along with additional labour income generated by Project employment could increase current cost of living and lead to some inflation.

[2] Based on an estimate of US$ 794 million and an exchange rate of 0.75.
[3] Note that this scaling also includes inflation. The expenditure and output of the Project are a certain percentage higher compared to the representative project due to inflation between 2014 and 2023, and it is expected that the economic effects will be higher by the same percentage, as the same inflation applies.
[4] Based on an estimate of US$ 5,036 million and an exchange rate of 0.75.

Lastly, the taxes directly paid by the mine were estimated to be $598.7 million[5] over 10 years, which is equivalent to approximately $59.9 million per year. While this cannot directly be compared to the representative project, the annual taxes paid by the mine can be broken down approximately as follows: $25.7 million federal corporate income tax, $17.1 million provincial corporate income tax and $17.1 million provincial mining tax[6]. Additional government funding can improve community services and infrastructure and creates additional jobs and labour income. Taxes may also be used for the development or rehabilitation of residential and/or commercial land and buildings within the Province, the Municipality and the local area.

3.3 Closure

It is estimated that total closure expenditure is approximately $46.7 million[7]. Active closure of the mine is planned to occur over five years, so the average annual closure expenditure is equivalent to $9.3 million. As discussed in Section 2.1, given that the representative project did not include estimates of economic effects during closure, it has been assumed that the types of expenditures during the closure phase are relatively similar to the construction phase and will therefore lead to similar economic effects, and so the closure expenditure of the Project is compared to the construction expenditure of the representative project. At $9.3 million, the Project's mine closure expenditure represents 4% of the representative project construction expenditures (9.3 ÷ 250 × 100 = 4%). Accordingly, economic effects during closure of the Project are estimated to be in the order of 4% of the representative project identified economic effects during construction.

During closure, the Project's contribution to the GDP, additional labour income, taxes and demand for goods and services will be reduced and then lost. Demand for housing is also expected to drop and housing prices are expected to drop if workers choose to sell their houses and leave the local area and move elsewhere.

[5] Based on an estimate of US$ 449 million and an exchange rate of 0.75.
[6] The following taxes are included: 15% federal corporate income tax, 10% provincial corporate income tax and 10% provincial mining tax. The $859.9 million annual tax burden is thus assumed to represent a total of 15% + 10% + 10% = 35% of an unknown taxable amount (e.g., taxable income excluding deductions). Each individual tax's share of the $59.9 million annual tax burden is hence the rate of the tax (10% or 15%) divided by the total tax rate (35%) multiplied by $59.9 million.
[7] Based on an estimate of US$ 35 million and an exchange rate of 0.75.

Table 3-1: Mine Workforce during Operations

Grade	Job Title	Number of Employees	Total Annual Cost for Total No. of Employees ($/yr)
Mine Maintenance			
Staff	Maintenance Superintendent	1	210,000
Staff	Maintenance General Foreman	1	182,000
Staff	Maintenance Shift Foremen	4	588,000
Staff	Maintenance Planner / Contract Admin	2	266,000
Staff	Clerk / Secretary	1	84,000
Hourly	Light Duty Mechanic	3	452,805
Hourly	Tire Man	4	460,168
Hourly	Lube Truck Driver	4	356,432
Hourly	Apprentice	7	762,503
Hourly	Heavy Duty Mechanic	40	6,037,400
Hourly	Welder	23	3,471,505
Hourly	Electrician	2	301,870
Mine Operations			
Staff	Mine Ops / Technical Superintendent	1	224,000
Staff	Mine General Foreman	1	196,000
Staff	Mine Shift Foreman	4	588,000
Staff	Junior Shift Foreman	4	532,000
Staff	Trainers		133,000
Staff	Road Crew / Services Foreman	1	147,000
Staff	Clerk / Secretary	1	84,000
Hourly	General Equipment Operator	8	712,864
Hourly	Road Pump Crew	8	712,864
Hourly	General Mine Labourer	8	709,184
Hourly	Trainee	4	315,544
Hourly	Drill Operator	24	2,854,896
Hourly	Blasters	2	237,908
Hourly	Blaster Helper	4	354,592
Hourly	Production Loader Operator	8	1,092,832
Hourly	Shovel Operator	8	1,092,832
Hourly	Haul Truck Driver	92	10,943,768
Hourly	Dozer Operator	12	1,508,700
Hourly	Grader Operator	6	754,350
Hourly	Transfer Loader	3	377,175
Hourly	Snowplow / Water Truck Operator	7	623,756

Table 3-1: Mine Workforce during Operations

Grade	Job Title	Number of Employees	Total Annual Cost for Total No. of Employees ($/yr)
Mine Engineering			
Staff	Chief Engineer	1	196,000
Staff	Senior Engineer	1	120,000
Staff	Open Pit Planning Engineer	2	210,000
Staff	Geotech Engineer	1	105,000
Staff	Blasting Engineer	1	105,000
Staff	Blasting / Geotech Technician	2	140,000
Staff	Dispatch Technician	1	70,000
Staff	Surveyor / Mining Technician	2	140,000
Staff	Surveyor / Mine Tech Helper	2	130,000
Staff	Clerk / Security	1	84,000
Geology			
Staff	Chief Geologist	1	182,000
Staff	Senior Geologist	1	154,000
Staff	Grade Control Geologist / Modeller	2	252,000
Staff	Sampling / Geology Technician	4	392,000
Staff	Clerk / Secretary	1	85,800
Mill Administration			
Staff	Mill Operations Manager	1	317,737
Staff	Chief Metallurgist	1	225,474
Mill Operations			
Staff	Operations Shift Foreman	4	649,461
Hourly	Control Room Operator	4	592,656
Hourly	ROM / Crushing Operator	4	549,184
Hourly	Mill / Gravity Operator	4	549,184
Hourly	Flotation / Leach Operator	4	549,184
Hourly	Acid Wash / Elution / Electrowinning Operator	4	549,184
Hourly	Reagents Operator	4	549,184
Hourly	Gold Room Operator	2	274,592
Hourly	Tails Filtration Operator	4	549,184
Hourly	Reagents Operator	4	522,128
Hourly	Labourer / Helper	8	802,069
Mill Maintenance			
Staff	Maintenance Superintendent	1	226,986
Staff	Mechanical Planner	1	118,400
Hourly	Mechanic	16	2,599,678
Hourly	Electrician	4	649,919
Hourly	Apprentice	8	964,140
Mill Metallurgy			
Staff	Metallurgical Engineer	2	336,318
Staff	Controls Engineer	2	317,327
Hourly	Assay Lab Technician	4	574,400

Table 3-1: Mine Workforce during Operations

Grade	Job Title	Number of Employees	Total Annual Cost for Total No. of Employees ($/yr)
Mill Assay Laboratory			
Staff	Chief Assayer	1	173,407
Hourly	Sample Preparation	8	802,069
Hourly	Assayer	4	522,128
General & Administration			
Staff	Mine General Manager	1	438,405
Staff	Receptionist	1	103,110
Staff	Accountant	1	114,803
Staff	Account Payables & Receivables	2	173,772
Staff	Payroll Specialist	2	173,772
Staff	IT Superintendent	1	194,558
Hourly	IT Specialist	4	597,384
Staff	Supply Chain / Warehouse Manager	1	124,794
Staff	Warehouse Technician	4	363,768
Hourly	Security Personnel	4	401,035
Staff	Human Resources Manager	1	148,588
Staff	Human Resources Coordinator	2	177,113
Staff	Health, Safety & Training Manager	1	148,588
Staff	Environmental Manager	1	163,965
Staff	Environmental Specialist	2	274,087
Staff	Bus Driver	1	99,888

Source:
FMG.
ROM = run of mine.

4.0 RESULTS OF THE ECONOMIC MODEL

4.1 Overview

The economic effects estimates, as calculated by the model, of the proposed Project during construction, operations and closure are presented in Table 4-1.

All effects are presented as annual values and in current prices (2023). Employment estimates are estimated in person-years, but because the figures are annual (i.e., person-years per year), they can be considered a close proxy for the number of people employed (or full-time equivalents) in any given year during the respective Project phase (construction, operations, closure).

4.1.1 Construction

Annual direct employment generated during the construction phase is 1,690 person-years of employment, with total annual labour compensation of $111 million. The annual labour compensation per employee is about $66,000, slightly above the provincial average rate of roughly $64,100[8]. Ontario GDP is directly increased by $155 million during each construction year (2.5 years in total). The annual direct, indirect and induced effects generated during the construction include 3,240 person-years of employment, $190 million in labour compensation with an average annual labour compensation of $58,000 and up to $309 million in additional Ontario GDP. Of that, the annual total economic effects expected to be in the local area are up to 2,280 person-years of employment and up to $134 million in labour compensation (which is defined in more detail in Section 5.0).

4.1.2 Operations

Annual direct employment generated during the operations phase is 449 person-years of employment, with total annual labour compensation of $57 million. The annual labour compensation per employee is about $128,000 (this includes employee benefits, pension contributions, Workplace Safety and Insurance Board premiums and the employer portion of Canada Pension Plan contributions and Employment Insurance premium). Ontario GDP is directly increased by $342 million annually during the operations phase (10 years in total). The annual direct, indirect and induced effects generated during the operations includes 3,540 person-years of employment, $241 million in labour compensation with an average annual labour compensation of $68,000 and up to $675 million in additional Ontario GDP. Of that, the total annual economic effects expected to be the local area include up to 3,050 person-years of employment and up to $255 million in labour compensation.

4.1.3 Closure

Annual direct employment generated during the closure phase is 40 person-years of employment, with total annual labour compensation of $2 million. The annual labour compensation per employee is assumed to be similar to that of the construction phase (about $66,000). Ontario GDP is directly increased by $3 million during the closure phase (5 years in total). The annual direct, indirect and induced effects generated during the closure include 70 person-years of employment, $4 million in labour compensation with an average annual labour compensation of $58,000 and up to $7 million in additional Ontario GDP. Of that, the annual total economic effects expected to be in the local area include up to 50 person-years of employment and up to $3 million in labour compensation.

[8] Average weekly earnings in Ontario in May 2023 (latest available data) were $1,232.03 (Statistics Canada 2024). Multiplied with 52 weeks per year, this suggests average annual earnings of approximately $64,100 (rounded to closest $100).

4.2 Employment Impacts

Using the annual job creation numbers generated and using the National Occupational Classification measures of "skills" required to perform person-years of employment in the Ontario economy, Table 4-2 includes the measure of the "skill mix" for the direct job effects from the construction, operations and closure of the mine.

4.2.1 Construction

Annual direct employment effects during construction show that over half (910; 51%) of the annual 1,690 jobs directly created by the construction of the mine require the equivalent of college or apprenticeship accreditation (Level B). About 350 jobs (21%) need secondary school or specific occupation training (Level C) and approximately 160 jobs (9%) require only on-the-job training (Level D). The remaining jobs (270; 16%) are classified as management or Level A (requiring a university degree).

Annual direct, indirect and induced employment effects during construction show that up to 1,430 jobs (44%) require college or apprenticeship certification (Level B), up to 800 jobs (25%) require secondary school and/or specific occupation training (Level C) and 340 jobs (10%) require on-the-job training (Level D). The remaining jobs (660, 20%) are classified as management or Level A (requiring a university degree). Of that total employment (3,240 jobs), up to 2,280 jobs are expected to be local / regional; 1,040 (46%) of these jobs require college or apprenticeship certification (Level B), 490 jobs (21%) require secondary school and/or specific occupation training (Level C) and 270 jobs (12%) require on-the-job training (Level D). The remaining jobs (480; 21%) are classified as management or Level A (requiring a university degree).

4.2.2 Operations

According to FMG, 449 jobs are created directly during the operation of the mine, of which 78 (17%) would be employed as staff and 371 (83%) would be on an hourly basis. A detailed breakdown by role of the workforce required for operation is provided in Table 3-1 (Section 3.2).

Annual direct, indirect and induced employment effects during operations show that up to 1,500 jobs (42%) require college or apprenticeship certification (Level B), up to 950 jobs (27%) require secondary school and/or specific occupation training (Level C) and 380 jobs (11%) require on-the-job training (Level D). The remaining jobs (710; 20%) are classified as management or Level A (requiring a university degree). Of that total employment (3,540 jobs), up to 3,050 jobs are expected to be local / regional; 1,330 jobs (44%) require college or apprenticeship certification (Level B), 750 jobs (25%) require secondary school and/or specific occupation training (Level C) and 350 jobs (11%) require on-the-job training (Level D). The remaining jobs (620; 20%) are classified as management or Level A (requiring a university degree).

4.2.3 Closure

Annual direct employment effects during the closure phase show that about 20 (50%) of the annual 40 jobs directly created by the closure activities of the mine require the equivalent of college or apprenticeship accreditation (Level B). About 10 jobs (25%) need secondary school or specific occupation training (Level C), and a small number (less than 5) of jobs require only on-the-job training (Level D). The remaining jobs (10; 25%) are classified as management or Level A (requiring a university degree).

Annual direct, indirect and induced employment effects during closure show that up to 30 jobs (43%) require college or apprenticeship certification (Level B), up to 20 jobs (29%) require secondary school and/or specific occupation training (Level C) and 10 jobs (14%) require on-the-job training (Level D). The remaining jobs (20; 29%) are classified as management or Level A (requiring a university degree). Of that total employment (70 jobs), up to 50 jobs are expected to be local / regional; 20 (40%) of these jobs require college or apprenticeship certification (Level B), 10 jobs (20%) require secondary school and/or specific

occupation training (Level C) and 10 jobs require on-the-job training (Level D). The remaining jobs (10; 20%) are classified as management or Level A (requiring a university degree).

4.3 Government Revenues

Table 4-3 summarizes the revenue effects by level of government for the construction, operations and closure of the mine.

4.3.1 Construction

From the $423 million annual expenditure on the mine's construction, the federal government earns about $37.1 million in revenue per year, with over half coming from the personal income tax and the remainder spread across the corporate income tax, employment insurance premiums and all other federal taxes.

The provincial government is estimated to take in about $42.0 million in revenue per year, and the local governments in the province should derive about $11.7 million in revenue per year. The Canada Pension Plan gains $10.8 million annually in Ontario in new contributions while the mine construction is occurring. The total annual Ontario impact on government revenues through all levels of activity is about $101.6 million.

4.3.2 Operations

From the $671 million annual output (sales) of the mine's operations, the federal government earns about $84.7 million in revenue per year, with $27.0 million per year coming from the personal income tax and $41.8 million per year from corporate tax. The remainder is employment insurance premiums ($5.4 million per year) and all other federal taxes ($10.5 million per year).

The provincial government is estimated to take in about $98.2 million in revenue per year, and the local governments in the province should derive about $25.5 million in revenue per year. The Canada Pension Plan gains $14.5 million annually in Ontario in new contributions while the mine operations is occurring. The total annual Ontario impact on government revenues through all levels of activity is about $223.0 million.

4.3.3 Closure

From the $9 million annual expenditure on the open pit mine's closure, the federal government earns about $0.8 million in revenue, with over half coming from the personal income tax and the remainder spread almost evenly across the corporate income tax, employment insurance premiums and all other federal taxes.

The provincial government is estimated to take in about $0.9 million in revenue and the local governments in the province should derive about $0.3 million in revenue. The Canada Pension Plan gains $0.2 million in Ontario in new contributions while the mine closure is occurring. The total impact on government revenues through all levels of activity is about $2.2 million.

Table 4-1: Estimated Annual Economic Effects

	Unit	Construction	Operations	Closure
Annual Mine Expenditure	$ millions	423	342	9
Annual Mine Output / Revenue	$ millions	0	671	0
Duration	Years	2.5	10	5
Direct Impacts				
Employment	Person-years	1,690	450	40
Total labour compensation	$ millions	111	57	2
GDP	$ millions	155	342	3
Labour compensation per employee	$ thousands	66	128	66
Indirect Impacts				
Employment	Person-years	850	1,890	20
Total labour compensation	$ millions	48	131	1
GDP	$ millions	81	208	2
Labour compensation per employee	$ thousands	56	69	56
Induced Impacts				
Employment	Person-years	700	1,200	20
Total labour compensation	$ millions	30	52	1
GDP	$ millions	73	125	2
Labour compensation per employee	$ thousands	44	44	44
Total: Direct, Indirect and Induced Impacts				
Employment	Person-years	3,240	3,540	70
Total labour compensation	$ millions	190	241	4
GDP	$ millions	309	675	7
Labour compensation per employee	$ thousands	58	68	58
Local Area Impacts				
Employment	Person-years	2,280	3,050	50
Total labour compensation	$ millions	134	255	3
GDP	$ millions	198	543	4
Labour compensation per employee	$ thousands	59	84	59

Note:
All $ values are in Canadian Dollars in 2023 prices. All values are rounded to closest 10 person-years or closest $1 million per year (except Labour Compensation / Employee to closest $1,000).

Table 4-2: Estimated Annual Employment Effects (in person-years)

	Construction	Operations	Closure
Duration (years)	2.5	10	5
Direct Impacts			
Total employment	1,690	450	40
Management	230	*	10
Skill Level A - University Degree	40	*	<5
Skill Level B - College or Apprenticeship Certification	910	*	20
Skill Level C - Secondary School / Specific Occupation Training	350	*	10
Skill Level D - On-the-Job Training Usually Provided	160	*	<5
Indirect Impacts			
Total Employment	850	1,890	20
Management	60	180	<5
Skill Level A - University Degree	170	220	<5
Skill Level B - College or Apprenticeship Certification	300	790	10
Skill Level C - Secondary School / Specific Occupation Training	240	520	10
Skill Level D - On-the-Job Training Usually Provided	80	170	<5
Induced Impacts			
Total employment	700	1,200	20
Management	70	120	<5
Skill Level A - University Degree	90	150	<5
Skill Level B - College or Apprenticeship Certification	220	370	<5
Skill Level C - Secondary School / Specific Occupation Training	210	360	<5
Skill Level D - On-the-Job Training Usually Provided	110	190	<5
Total: Direct, Indirect and Induced Impacts			
Total employment	3,240	3,540	70
Management	360	300	10
Skill Level A - University Degree	300	4100	10
Skill Level B - College or Apprenticeship Certification	1,430	1,500	30
Skill Level C - Secondary School / Specific Occupation Training	800	950	20
Skill Level D - On-the-Job Training Usually Provided	340	380	10
Local Area Impacts			
Total employment	2,280	3,050	50
Management	280	270	10
Skill Level A - University Degree	200	350	<5
Skill Level B - College or Apprenticeship Certification	1,040	1,330	20
Skill Level C - Secondary School / Specific Occupation Training	490	750	10
Skill Level D - On-the-Job Training Usually Provided	270	350	10

Notes:
All values are rounded to closest 10 person-years.
* A detailed breakdown by role of the workforce required for operation was provided by FMG (see Table 3-1 in Section 3.2), but this is not classified by National Occupational Classification skills.
< = less than.

Table 4-3: Estimated Effects on Annual Government Revenues

	Construction	Operations	Closure
Annual mine expenditure (construction, closure) / output (operations) ($, millions)	423	671	9
Duration (years)	2.5	10	5
Federal Government			
Personal income tax ($, millions)	19.6	27.0	0.4
Corporate income tax ($, millions)	6.4	41.8	0.1
Employment insurance premiums ($, millions)	4.6	5.4	0.1
Other federal taxes ($, millions)	6.4	10.5	0.1
Federal government total ($, millions)	37.1	84.7	0.8
Provincial Government			
Personal income tax ($, millions)	9.7	13.2	0.2
Corporate income tax ($, millions)	4.2	44.7	0.1
of which: Mining Tax ($, millions)	0.0	17.1	0.0
Workplace safety (Workplace Safety and Insurance Board) premiums ($, millions)	4.6	11.2	0.1
Employer health tax ($, millions)	2.7	3.2	0.1
Other provincial taxes ($, millions)	20.8	26.0	0.5
Provincial government total ($, millions)	42.0	98.2	0.9
Local Governments			
All local taxes ($, millions)	11.7	25.5	0.3
(Taxes in mine locality) ($, millions)	7.5	20.6	0.2
Canada Pension Plan Contributions ($, millions)	10.8	14.5	0.2
Ontario Total - All Governments ($, millions)	101.6	223.0	2.2

Notes:
All values are rounded to closest $0.1 million per year (except annual mine expenditure / output to closest $1 million).

5.0 EXTENT OF LOCAL AREA IMPACTS

5.1 What are Local Area Impacts?

For the representative project, Dungan and Murphy (2014) attempted to "isolate what might be called the local impacts within a region of Ontario surrounding the new mine." They "estimate how much of the economic activity spun off from the new mine actually stays within the region or community surrounding the mine." This is done by "categoriz[ing] the individual industrial impacts at the indirect and induced level into those which might reasonably be expected to remain in the so-defined local region of the mine (for example, various personal or business services, construction or utilities)." The local region is thereby characterized as follows:

- "Because we are assuming that the new gold mine will be built in a relatively remote area of Northern Ontario, we take a more 'regional' view of what local means. . . . "
- "Effectively, the definition of local would include the nearest major town/city that would have significant public (including a hospital and schools) and private facilities available."
- "Construction, and much of its supply, tends to [be] heavily localized. However, because the mine is assumed to be in a relatively remote location, it is possible that a larger proportion of workers will be from outside the region, unless we assume that there are sufficient workers and construction infrastructure in the local area to support the building of the new mine."

The "local impacts" (a share of the total direct, indirect and induced impacts of a project) estimated by Dungan and Murphy (2014) for a representative mine have been scaled to the Project. The results are shown in Section 4.0.

5.2 Study Area

Based on data about the local communities near the Project site, this section discusses how wide this "local" area would likely need to be to accommodate these local impacts, and thus the likely geographical extent over which the estimated local impacts would occur. The analysis focuses on two key "needs" of the mine (and its indirect and induced economic impacts) to help determine where the needs could be met and hence economic activity is created. These are labour (Section 5.2) and public or private facilities such as infrastructure, schools, hospitals and businesses (Section 5.3).

To structure the discussion of the potential geographical scale of local impacts, the communities surrounding the Project site have been grouped into four tiers as shown in Table 5-1. For each key need created by the mine (labour, facilities), the tiers are examined starting from the closest (Tier 1) to determine how far local impacts would likely reach until all of the requirements can be met. Note that the first two tiers cover the area that comprises the socioeconomic regional study area for the Project, and so these tiers are assessed in more detail than the other tiers farther away from the mine.

5.3 Local Employment Impacts and Locally Available Labour Force

The total (direct, indirect and induced) local employment impacts of Project are estimated as 2,280 person-years per year for the construction phase (over 2.5 years), 3,050 person-years per year for the operation phase (over 10 years) and 50 person-years per year for the closure phase (over 5 years). As discussed in Section 4.0, these can be considered a close proxy for the number of people employed (or full-time equivalents) in any given year. Hence, the largest amount of potential local employment is expected to be created during the 12-year operation of the mine, when 3,050 local jobs are sustained (directly and through indirect and induced effects), so this is the maximum number of workers that would be expected to potentially come from the local labour force at any one time as a result of the mine and its direct, indirect and induced economic effects. This is referred here to as the "local labour demand" generated by the mine's direct, indirect and induced economic effects.

Table 5-2 shows the available labour force for Tier 1 and 2 communities (i.e., the socioeconomic study area). As shown in the table, the additional local labour demand expected to be generated by the Project during the construction and operation phases is well above the current number of unemployed persons in Tiers 1 and 2. The majority of the Tier 1 and 2 population over 15 years that is currently classified as not in the labour force, and/or a part of the population that is currently already employed, could potentially have the opportunity to contribute to satisfying the local labour demand generated by the mine, in addition to persons currently classified as unemployed. Considering not all of these people may be interested or qualified to take up that opportunity, it appears very likely that a share the estimated local labour demand generated by the mine will need to be met by labour force beyond Tiers 1 and 2.

To further refine the assessment of local labour demand, the estimate can be broken down by the expected level of skill required, based on categories used by Dungan and Murphy (2014). These skill levels can be approximately matched to levels of education achieved by the local population according to Statistics Canada Census data (as collected in the socioeconomic baseline [Appendix Q-1]) (Table 5-3). Table 5-4 shows the local population over 15 years by skill / education level and the modelled local labour demand generated by the Project. As shown in the table, the modelled local labour demand exceeds the Tier 1 population over 15 years for every skill / education level except skill level D (no degree), for both the construction and operations phases. When the Tier 2 population over 15 years is included, the local labour force exceeds the modelled local labour demand for every skill / education level and all three phases of the Project.

Note that data on employment status by level of education are not available, but on average about 60% of the Tier 1 and 2 population is already employed (as shown in Table 5-2), so it appears likely that for each skill / education level, only a minority of the population may be available for / interested in additional employment opportunities created by the mine (and its direct, indirect and induced economic impacts).

In conclusion, the magnitude of the modelled local labour demand generated by the Project suggests that additional employment opportunities would be created for the vast majority of the available labour force in Tiers 1 and 2, particularly during construction and operation. Considering that a large share of the population is already employed or currently not in the labour force (and may not be interested in joining the labour force), it appears likely that some of the modelled local labour demand will need to be met by labour force beyond Tiers 1 and 2. This is particularly likely for management and skill levels A (university degree) and B (college or apprenticeship certification) where the gap between the total local population and the local labour demand is smallest, and so it is more likely that fewer people with the required level of education are available for additional employment in Tier 1 and 2, than the number of local labour demand generated by Project. Hence, some of the additional labour demand generated by the mine is likely to be met in Tier 3 (Kenora and Dryden).

5.4 Available Public and Private Facilities in the Local Area

As explained in Section 5.1, the share of the total direct, indirect and induced impacts of the Project that are estimated to remain in the local area (i.e., local area impacts) is estimated based on Dungan and Murphy (2014), who define the "local area" as extending to include the nearest major town / city with significant public (including a hospital and schools) and private facilities, as well as various personal or business services, construction or utilities. Therefore, the local area in which the modelled local economic impacts occur would likely extent until the location of such facilities.

Based on the secondary data gathered for the socioeconomic baseline of the impact assessment for Project, the availability of selected key facilities is summarized in Table 5-5 for Tiers 1 and 2. As shown in the table, Tier 1 hosts some basic services, such as basic healthcare (nursing stations) childcare, primary education and grocery stores, as well as a limited array of more specialized services, economic development / employment / training organizations and accommodations. This would suggest that the facilities are available for some of the economic activities generated by the Project to occur within Tier 1. However, the residents of Tier 1 (and hypothetically also Project site staff) depend to a significant degree on the municipalities of Tier 2, which host hospitals, secondary education, more substantial economic development / employment / training services, a much larger capacity of basic services (e.g., groceries, retail, restaurants, business services, personal care services) and accommodations, a wide variety of specialized services, and better transport connections.

In conclusion, the local area impacts (the share of the total direct, indirect and induced impacts of the Project that are estimated to remain in the local area) should be expected to extend to include the municipalities of Tiers 1 and 2. The nearest cities (Dryden and Kenora, Tier 3) provide additional facilities and capacities, including specialized services for the mining supply chain. Both cities specifically advertise themselves as centres for services to serve the regional mining industry[9]. Therefore, a share of the economic impacts of Project would certainly be generated in Tier 3. However, it is not clear whether these would still fall within the definition of local area impacts or simply be accounted for as part of the wider (i.e., non-local) direct, indirect and induced impacts of the mine, considering that Tiers 1 and 2 appear to largely fulfil the requirements of what constitutes the local area according to Dungan and Murphy (2014).

5.5 Overall Conclusion

The local impacts estimated by Dungan and Murphy (2014) for a representative mine have been scaled to the Project. The updated economic modelling evaluated how wide this local area would likely need to be to fulfil the definition of local area by Dungan and Murphy (2014) and thus the likely geographical extent over which the estimated local impacts would occur.

Based on a comparison of the magnitude of the modelled local labour demand generated by the Project (and its direct, indirect and induced economic impacts) to data on the available labour force, it appears likely that additional employment opportunities would be created for the vast majority of the available labour force in the proximal Indigenous communities as well as the nearest municipalities (Tiers 1 and 2), particularly during construction and operation. Some of the modelled local labour demand will likely be met by labour force beyond these communities and municipalities, in nearest cities Kenora and Dryden (Tier 3).

A similar conclusion can be reached based on a comparison of the locally available facilities to the definition according to Dungan and Murphy (2014) of what constitutes a local area. The local area impacts should be expected to extend to include the proximal Indigenous communities, as well as the nearest municipalities

[9] See sector profiles by the Dryden Development Corporation (2010) and the City of Kenora (2014).

(Tiers 1 and 2). Some of the modelled local employment impacts could "spill over" into the nearest cities (Dryden and Kenora, Tier 3), based on their additional facilities and capacities, including specialized services for the mining supply chain.

Therefore, the geographical extent over which the estimated local impacts would occur likely consists of the proximal Indigenous communities as well as the nearest municipalities (Tiers 1 and 2), but potentially also includes the nearest cities (Dryden and Kenora, Tier 3) to some extent.

Table 5-1: Tiers of Communities around the Springpole Gold Project and Their Population

Tier	Approximate Distance to Springpole Project	Key Settlements	Population
1 - Nearest Indigenous communities	50–120 km	Cat Lake First Nation	651
		Slate Falls Nation	299
		Lac Seul First Nation	1,022
		Wabauskang First Nation	57
		Mishkeegogamang Ojibway Nation	757
		Ojibway Nation of Saugeen	88
		Pikangikum First Nation	3,156
2 - Nearest municipalities	100–150 km	Red Lake	4,094
		Ear Falls	924
		Sioux Lookout	5,839
3 - Nearest cities	180–240 km	Kenora	14,967
		Dryden	7,388
4 - Nearest major hubs	380–400 km	Thunder Bay	108,843
		Winnipeg	749,607

Sources:
Appendix Q-1, Attachment A: Socioeconomic Baseline Report; Statistics Canada (2023).
km = kilometre.

Table 5-2: Labour Force Available in Tiers 1 and 2

Employment Status	Tier 1 Excl. Pikangikum due to Lack of Data	Tier 2 (number of which are Métis Nation of Ontario citizens)	Sum: Tier 1 + Tier 2 (% of total)
Population 15+ years	1,795	8,865 (550)	10,660 (100%)
Employed	690	5,685 (410)	6,375 (60%)
Unemployed	125	365 (25)	490 (5%)
Not in the labour force	985	2,820 (115)	3,805 (36%)

Sources:
Appendix Q-1, Attachment A: Socioeconomic Baseline Report; Statistics Canada (2023); Statistics Canada (2017).
Note:
Percentage values are rounded to the nearest whole number.

Table 5-3: Approximate Matching of Skill and Education Levels

Matched Category Title	Skill Levels of Employment Impacts per Dungan and Murphy (2014)	Levels of Education Achieved per Statistics Canada 2016 Census
Skill A / Management - University	Management; Skill Level A - University Degree	University degree; University certificate below bachelor level
Skill B - College / apprenticeship	Skill Level B - College or Apprenticeship Certification	College or non-university certificate; Trades / apprenticeship or other non-university certificate
Skill C - High school	Skill Level C - Secondary School and/or Specific Occupation Training	High school diploma or equivalent only
Skill D - No degree	Skill Level D - On-the-Job Training Usually Provided	No degree, certificate or diploma

Table 5-4: Tier 1 and 2 Population (15+ years) and "Local" Labour Demand Generated by Springpole Gold Project by Skill / Education Level

Skill / Education Level	Local Population (15+ years)			Modelled Local Employment Impacts of Springpole Gold Project (in person-years per year)		
	Tier 1	Tier 2	*Total*	Construction	Operations	Closure
Skill A / Management - University	70	1,755	1,825	360	560	10
Skill B - College / apprenticeship	175	2,655	2,830	780	1,220	20
Skill C - High school	335	2,630	2,965	370	680	10
Skill D - No degree	1,190	1,825	3,015	200	320	10

Sources:
Wood Environment & Infrastructure Americas modelling results (see Section 4.0 of Appendix Q-1, Attachment A: Socioeconomic Baseline Report; Statistics Canada (2023); Statistics Canada (2017)).

Table 5-5: Summary of Facilities Available in Tiers 1 and 2

Type of facilities	Tier 1	Tier 2
Healthcare	Basic healthcare available in most communities (nursing stations with community nurses, periodically visits by physicians / dentists / optometrists)	Basic healthcare available in all three municipalities, hospitals in Red Lake (18 beds; 95 full-time, part-time and casual employees with seven physicians; 24-hour emergency care, among other services) and Sioux Lookout (fully accredited 60-bed hospital and a 20-bed extended care facility serving a population of approximately 30,000 people)
Education	(Junior) Kindergarten and elementary schools available in most communities, in Pikangikum kindergarten to grade 12 (220 employees serving 920 students)	Several elementary and secondary schools available, two branches of Confederation College (post-secondary education)
Economic development, employment and training services	Two economic development corporations (Windigo Community Development Corporation, Kakina Economic Development Group) serve some of the communities in this tier, the Sioux Lookout Area Aboriginal Management Board provides employment / training services to other communities in this tier and there is an additional training centre (Lac Seul)	Several regional and local employment / training agencies and programs, municipal chambers of commerce and economic development committees / departments
Businesses: basic services	The level of information from secondary data gathered varies, but it appears that most communities in this tier are served by some basic services like a store and post office. Some communities are also served by a restaurant. Pikangikum hosts a business centre with offices	All basic services available: restaurants, grocers, food and beverage services, business and financial services, fitness and personal care services, retail stores
Businesses: specialized services	Some specialized services identified: Windigo Community Development Corporation (service industry, civil works, logistics, heavy equipment rental, fuels, surveying, drilling, environmental monitoring, roads and bridges, camp services and equipment, helicopter services; more than 100 employees), forestry and power services in Pikangikum	A variety of specialized services identified: airlines, automotive sales and services, communications, construction, fuel, logging and forestry, machinery / equipment, mining, government services, real estate / rentals, transportation and taxi, wholesale, IT, oil and gas
Accommodations	One motel (Cat Lake), one hotel (Pikangikum, 10 rooms) and a few lodges and a camp have been identified	10 accommodations identified across the three municipalities (some 300 rooms in total)
Transport infrastructure	Information from secondary data is not comprehensive, but some communities are accessible by road, some only by winter road and/or by air	All municipalities are accessible by road, Red Lake and Sioux Lookout also by rail and air

Source:
Appendix Q-1, Attachment A: Socioeconomic Baseline Report.

6.0 CLOSING

This socioeconomic model report was prepared for FMG by WSP. The quality of information, conclusions and scheduling estimates contained here is consistent with the level of effort involved in WSP's services and based on 1) information available at the time of preparation, 2) data supplied by outside sources, and 3) the assumptions, conditions and qualifications set forth in this report.

Yours truly,

WSP Canada Inc.

Prepared by:	**Reviewed by:**
Original signed	***Original signed***
Julius Kreissig Economist / Environmental Policy Specialist	Bruce Vincent, M.Sc. Senior Principal Human Environment

7.0 REFERENCES

City of Kenora. 2014. Kenora Mining Services Sector Profile. Lake of the Woods Development Commission. https://www.kenora.ca/en/build-invest/resources/Documents/2014-Mining-Services-Sector-Profile.pdf.

Dryden Development Corporation. 2010. Exploration and Mining. https://www.dryden.ca/en/business/resources/Documents/Community-Development/Sector-Sheets/Mining.pdf.

Dungan, P. and S. Murphy. 2014. An Au-thentic Opportunity: The Economic Impacts of a New Gold Mine in Ontario. Prepared by Policy and Economic Analysis Program, Rotman School of Management. Submitted to Ontario Mining Association and Ontario Ministry of Northern Development and Mines. October 2014. Toronto, ON.

Statistics Canada. 2017. Census Profile. 2016 Census of Population. Retrieved from: https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E (accessed April 10, 2023).

Statistics Canada. 2023. Census Profile. 2021 Census of Population. Retrieved from: https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/index.cfm?Lang=E (accessed April 10, 2023).

Statistics Canada. 2024. Employment and average weekly earnings (including overtime) for all employees by province and territory, monthly, seasonally adjusted. 14-10-0223-01 (formerly CANSIM 281-0063), released September 26, 2024. Customized for industrial aggregate excluding unclassified businesses, January 2020 to August 2023. https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410022301&pickMembers%5B0%5D=2.2&pickMembers%5B1%5D=3.2&cubeTimeFrame.startMonth=01&cubeTimeFrame.startYear=2020&cubeTimeFrame.endMonth=08&cubeTimeFrame.endYear=2023&referencePeriods=20200101%2C20230801.