



Economic Impacts of the Casino Mine Project

Based on the 2022 Casino Project Feasibility Study

Prepared for Casino Mining Corporation

November 30, 2022



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Report Limitations

The report is provided for information purposes and is intended for general guidance only. It should not be regarded as comprehensive or a substitute for personalized, investment or business advice.

We have relied upon the completeness, accuracy and fair presentation of all information and data obtained from Ausenco, CMC and public sources believed to be reliable. The accuracy and reliability of the findings and opinions expressed in the presentation are conditional upon the completeness, accuracy and fair presentation of the information underlying them. As a result, we caution readers not to rely upon any findings or opinions for business or investment purposes and disclaim any liability to any party who relies upon them as such.

The findings and opinions expressed in the presentation constitute judgments as of the date of the presentation and are subject to change without notice. MNP is under no obligation to advise of any change brought to its attention which would alter those findings or opinions.

The analysis contained in this report is based upon projections, founded on past events giving an expectation of certain future events. Future events are not guaranteed to follow past patterns and results may vary, even significantly. Accordingly, we express no assurance as to whether projections underlying the economic and financial analysis will be achieved.

1. Executive Summary

Casino Mining Corporation's ("CMC") Casino project is a proposed open pit mine located in west central Yukon. CMC engaged MNP LLP ("MNP") to conduct an economic impact study for the Casino project to demonstrate the potential economic benefits that could be realized in the Yukon and the rest of Canada. The estimates were based on the the 2022 Casino Project Feasibility Study.¹

The scope of the study encompassed estimating the economic impacts of each phase of the project lifecycle:

- **Construction and development.** This phase involves the preparation of the site by removing organics, constructing required buildings and structures and infrastructure such as roads and bridges.
- **Operations.** This phase involves the extraction and processing of raw materials.
- **Closure and reclamation.** This is the final phase of the mining lifecycle where production reserves are exhausted and it is no longer economically viable to continue operations. The closure component involves the removal of equipment, dismantling of facilities, and restoration of the mine site.

Construction and Development Impacts of the Casino Project

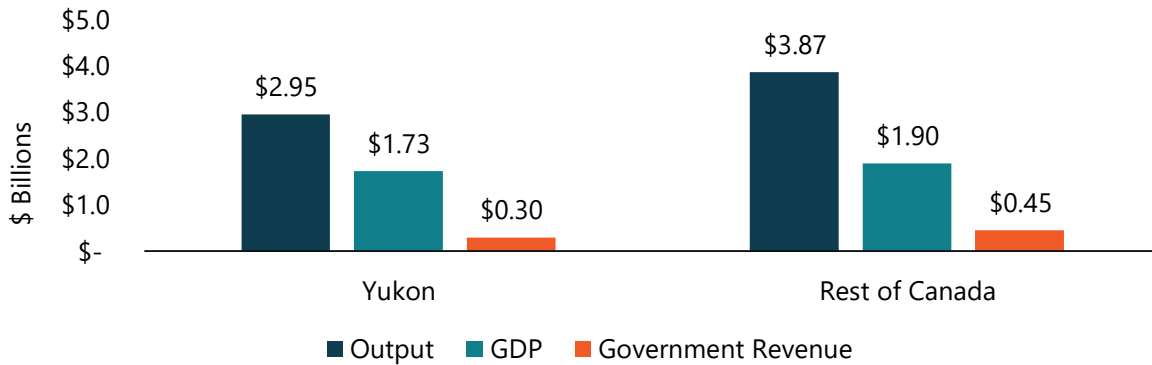
Regional impacts² from construction and development of the Casino project include:

- \$2.36 billion in direct output and **\$2.95 billion in total output in the Yukon** and \$3.87 billion in total output in rest of Canada.
- \$1.38 billion in direct GDP and **\$1.73 billion in total GDP in the Yukon** and \$1.90 billion in total GDP in the rest of Canada.
- 8,140 full-time equivalents ("FTEs") of direct employment and **10,580 FTEs of total employment in the Yukon** and 15,000 FTEs in the rest of Canada.
- \$0.75 billion of government revenue in Canada.

¹ M3 Engineering & Technology Corp. Casino Project: Form 43-101F1 Technical Report Feasibility Study. [Published August 8, 2022]

² Direct impacts of construction, including employment and labour income, are generated in the province or territory where the construction activity takes place. Although employed labour might be brought in from other parts of Canada, it will be employed – and hence paid – in the Yukon.

Figure A: Total Output, GDP, and Government Revenue from Construction and Development of the Casino Project



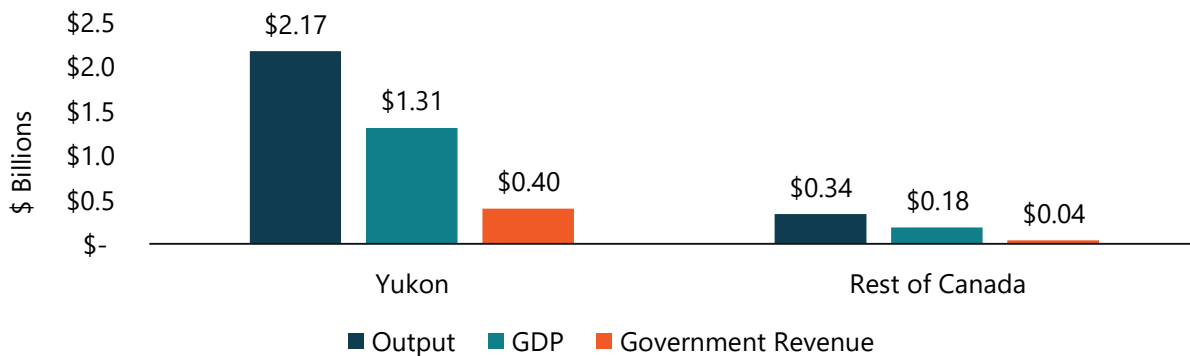
25,580 FTEs of total employment over the construction period.³

Annual Operation Impacts of the Casino Project

Figure B summarizes the estimated annual operational impacts of the Casino project. **Regional impacts** from operations of the Casino project include:

- \$1.51 billion in direct output and **\$2.17 billion in total output in the Yukon** and \$335 million in total output in the rest of Canada.
- \$943 million in direct GDP and **\$1.31 billion in total GDP in the Yukon** and \$0.18 billion in total GDP in the rest of Canada.
- 700 FTEs in direct employment and **2,830 FTEs in total employment in the Yukon** and 1,050 FTEs in the rest of Canada.
- \$0.43 billion in government revenue in Canada.

Figure B: Annual Projected Impacts from Operations of the Casino Project



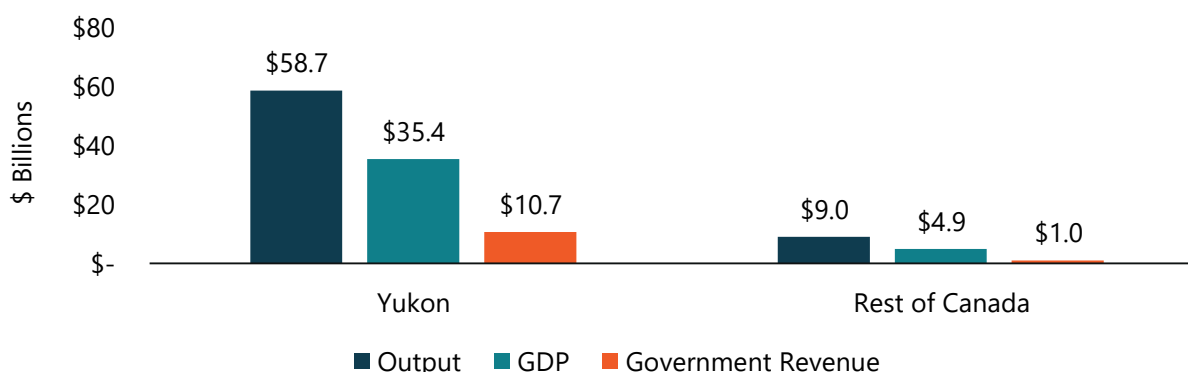
3,880 FTEs of total employment annually related to the operation of the mine.³

³ Total employment includes direct, indirect, and induced.

Figure C summarizes the estimated cumulative operational impacts of the Casino project. **Regional impacts** from operations of the Casino project include:

- \$40.7 billion in direct output and **\$58.7 billion in total output in the Yukon** and \$9.0 million in total output in the rest of Canada.
- \$25.5 billion in direct GDP and **\$35.4 billion in total GDP in the Yukon** and \$4.9 billion in total GDP in the rest of Canada.
- 18,900 FTEs in direct employment and **76,410 FTEs in total employment in the Yukon** and 28,350 FTEs in the rest of Canada.
- \$11.7 billion in government revenue in Canada.

Figure C: Cumulative Projected Impacts from Operations of the Casino Project over 27 Years



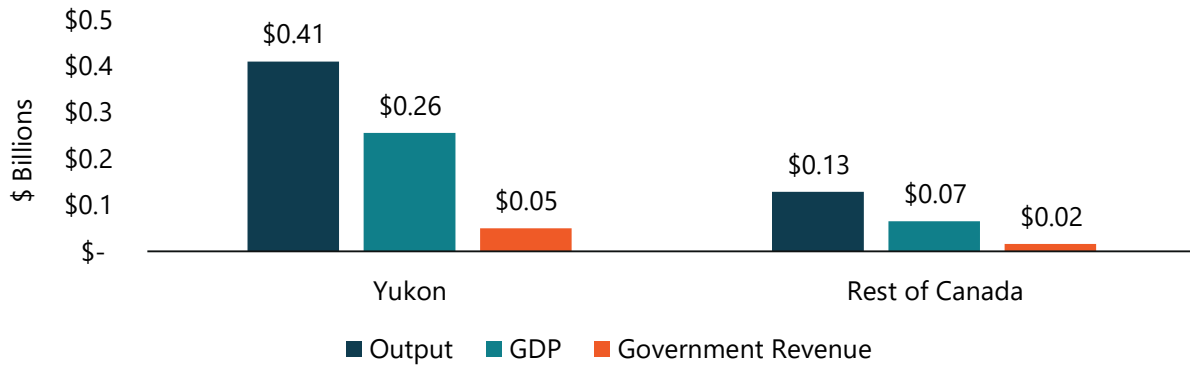
104,760 FTEs of cumulative employment from the operations of the mine.³

Reclamation and Closure Impact of the Casino Project

Regional impacts from the closure and reclamation of the Casino project include:

- \$300 million in direct output and **\$409 million in total output in the Yukon** and \$129 million in total output in the rest of Canada.
- \$185 million in direct GDP and **\$255 million in total GDP in the Yukon** and \$65 million in total GDP in the rest of Canada.
- 990 FTEs in direct employment and **1,460 in total employment in the Yukon** and 480 FTEs in the rest of Canada.
- \$64 million in government revenue in Canada.

Figure D: Total Projected Impacts from Reclamation and Closure of the Casino Project



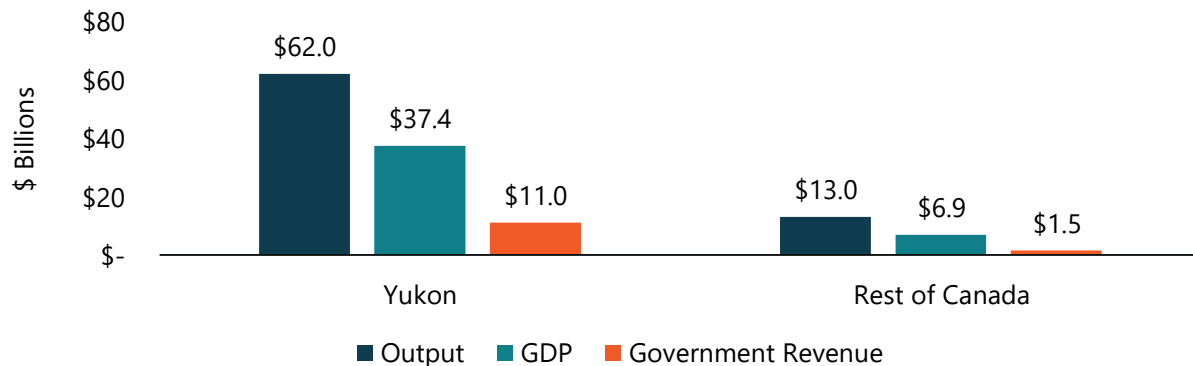
1,940 FTEs of total employment during reclamation and closure of the mine.³

Cumulative Impacts of the Casino Project

Cumulative impacts of the Casino project from construction and development, operations, and closure and reclamation, over the lifecycle of the mine include:

- \$43.4 billion in direct output and **\$62.0 billion in total output in the Yukon** and \$13.0 billion in total output in the rest of Canada.
- \$27.0 billion in direct GDP and **\$37.4 billion in total GDP in the Yukon** and \$6.9 billion in total GDP in the rest of Canada.
- 28,030 FTEs in direct employment and **88,450 in total employment in the Yukon** and 43,830 FTEs in the rest of Canada.
- \$12.5 billion in government revenue in Canada.

Figure E: Cumulative Impacts from Construction and Development, Operations, and Closure and Reclamation



132,280 FTEs of total employment over the full lifecycle of the Casino project.³

2. Introduction

Background and Purpose

Casino Mining Corporation's ("CMC") Casino project is a proposed open pit mine located in west central Yukon. The property is approximately 300 km northwest of the territorial capital of Whitehorse and is located on Crown land administered by the Yukon Government. The mine site and a portion of the access road are located within the Traditional Territory of Selkirk First Nation. A portion of the access road is located within the Traditional Territory of Little Salmon/Carmacks First Nation, and Casino's water supply pipeline is located within the Traditional Territory of Tr'ondëk Hwëch'in. Kluane First Nation's Traditional Territory is located downstream of the proposed mine and the Project is within the asserted Traditional Territory of the White River First Nation.

The Casino project has been in development since 2007, and two pre-feasibility studies and two full feasibility studies were completed that indicated the project could be economically developed. Four metals are planned to be produced at the proposed open pit mine: copper, gold, silver, and molybdenum. The Casino project is expected to be a major contributor to growth in the Yukon mining sector and is expected to provide economic benefits to both Yukon and the rest of Canada.

CMC engaged MNP LLP ("MNP") to conduct an economic impact study for the proposed mine to quantify the potential economic benefits that may be realized by Yukon communities, residents, and governments as a result of the project. The economic impact assessment is based on the 2022 Casino Project Feasibility Study⁴ (the "Feasibility Study") and financial projections from CMC.

Approach

In preparing this report, MNP carried out the following activities:

- Gathered and reviewed data provided by Ausenco and CMC on the Casino project, including projected construction and development expenditures, annual operating revenues and expenditures, and closure and post-closure expenditures.
- Developed an economic impact model based on multipliers published by Statistics Canada to estimate the economic impacts associated with the project.
- Met with representatives from the Yukon Government, Department of Economic Development, Bureau of Statistics to review the multipliers used in the study.

⁴ M3 Engineering & Technology Corp. Casino Project: Form 43-101F1 Technical Report Feasibility Study. [Published August 8, 2022]

Organization of the report

The remaining sections of the report are organized as follows:

- Section 3 provides an overview of the Casino project.
- Section 4 provides a description of the economic impact methodology and provides the aggregate results for the economic impact associated with construction and development, annual operations, and closure and reclamation of the mine.
- Section 5 describes the implications for government revenue for the federal government, the Yukon government, and Yukon First Nations.
- Section 6 summarizes the findings of the study.



Source: Casino Mining Corporation.

3. Overview of the Casino Mine Project

Yukon Economy and Mining Industry

Following a period of contraction in 2019, the Yukon economy has experienced year-over-year growth throughout 2020 and 2021. Year-over-year real GDP growth for the Yukon in 2020 was 5.2 percent, followed by 9.1 percent growth in 2021.⁵ Substantial growth was seen in the mining, quarrying, and oil and gas extraction sector which grew by 121.7 percent in 2020 and 37.2 percent in 2021, year-over-year.⁶ This growth reflects increased mineral production from existing mine operations and mines that are restarting extraction activities.⁷

Overview of the Casino Mine Project

The Casino property has had a long exploration history dating from the first mineral claims in 1917. In 1936, discoveries of silver, lead and zinc were made, leading to focused exploration of the property for lead and silver through to 1967. From 1968 to 1995, the property was explored for its copper and molybdenum porphyry deposits (porphyry deposits are the world's most plentiful and important sources of copper and molybdenum).⁸ In 2006, CMC acquired the Casino deposit and conducted several evaluations of the property. A Pre-Feasibility Study was conducted in 2008 and updated in 2010. In 2013 a feasibility study was completed and in January 2014, a project proposal for the Casino mine was submitted to the Yukon Environmental and Socio-economic Assessment Board (YESAB) and has undergone rounds of review. In February 2016, the Executive Committee of YESAB determined the Casino mine project requires a Panel Review – the highest level of environmental and socio-economic assessment by YESAB. Between 2016 and 2021 CMC continued to advance the project through engagement with Yukon First Nations, citizens and governments. In December 2021 CMC submitted an updated schedule to YESAB for its submission of an Environmental and Socio-economic Statement.⁹

The Casino property is located in south-western Yukon in the Dawson Range Mountains, where the terrain is characterized by rounding and rolling topography with moderate to deep valleys. The Yukon River flows to the west and is about 16 km north of the site. The property is situated about 300 km northwest of Whitehorse and 560 km from the year-round port in Skagway, Alaska.

Significant amounts of construction labour will be required to build the Casino mine. The commercial life of the Casino project is expected to be 27 years, following a 3-year pre-production period.¹⁰

⁵ Statistics Canada. CANSIM, Table 36-10-0402-01. *Gross domestic product (GDP) at basic prices, by industry, provinces and territories (x 1,000,000). Chained 2012 dollars. 2022.* [Gross domestic product \(GDP\) at basic prices, by industry, provinces and territories \(statcan.gc.ca\).](https://www150.statcan.gc.ca/n1/pub/36-10-0402-01/2022001/article/00001-eng.htm)

⁶ Ibid.

⁷ Government of Yukon. Fiscal and Economic Outlook. March 2021. Retrieved from: [fin-2021-22-fiscal-and-economic-outlook.pdf \(yukon.ca\).](https://www.yukon.ca/fin-2021-22-fiscal-and-economic-outlook.pdf)

⁸ Natural Resources Canada, Geological Survey of Canada: Mineral Deposits of Canada. Available: http://gsc.nrcan.gc.ca/mindep/synth_dep/porph/index [October 2011].

⁹ Casino. Project Timeline. Available: <https://casinomining.com/project/timeline/> (October 7, 2022)

¹⁰ M3 Engineering & Technology Corp. Casino Project: Form 43-101F1 Technical Report Feasibility Study. [Published

4. Economic Impact Analysis

Methodology

To estimate the economic impacts of the Casino project, MNP employed an input-output methodology that uses provincial multipliers published by Statistics Canada.¹¹ Input-output modeling is a widely used and accepted approach, making it recognizable by many different stakeholders and audiences. The structure of the approach also facilitates easy comparisons between reported results for different projects, organizations, or industries.

In general, economic impacts are viewed as being restricted to quantitative, well-established measures of economic activity. The most commonly used of these measures are output, GDP, employment, and government revenue:

- **Output** is the total gross value of goods and services produced by a given company or industry measured by the price paid to the producer. This is the broadest measure of economic activity.
- **Gross Domestic Product (“GDP”)**, or value added, refers to the additional value of a good or service over the cost of inputs used to produce it from the previous stage of production. Thus, GDP is equal to the unduplicated value of the goods and services produced.
- **Employment** is the number of additional jobs created. Employment is measured in terms of full-time equivalents (“FTEs”). One FTE is equivalent to one person working full-time for one year or one person-year of employment.
- **Government Revenues** are the total amount of revenues generated for different levels of government. Revenues arise from personal income taxes, indirect taxes less subsidies, corporate income taxes, taxes on products and royalties. Please note that because tax revenues can frequently change due to modifications in tax policy, the government revenues in this report are estimates only and subject to change. They should be viewed as approximate in nature.

Economic impacts may be estimated at the direct, indirect and induced levels:

- **Direct impacts** are due to changes that occur in “front-end” businesses that would initially receive expenditures and operating revenue as a direct consequence of the operations and activities of an industry, organization or project.
- **Indirect impacts** arise from changes that occur at suppliers due to spending of the “front-end” businesses.
- **Induced impacts** arise from shifts in spending on goods and services as a consequence of changes to the payroll of the directly and indirectly affected businesses.

As part of the validation process for the estimates MNP met with representatives from the Yukon Government, Department of Economic Development, Bureau of Statistics, to review the multipliers used in

August 8, 2022]. Page 12.

the study. Based on their recommendation we conducted a sensitivity analysis of the multipliers. The sensitivity analysis found that the values produced by our model are generally within 3 percent to 5 percent of alternative specifications. Where our model differs is in terms of direct employment impacts and associated induced impacts due to adjustments to employment and labour income that were made to reflect the specific characteristics of the mine. The results of the sensitivity analysis are provided in Appendix A.

Limitations of the Economic Impact Analysis

Input-output models are based on a simplified account of the linkages that exist in the economy and consequently, there are a number of limitations that should be considered when reviewing the model results:

- Input-output models are based on statistical information about the flow of goods and services among various industries at a point in time. Over time, those relationships may change due to changes in technology and productivity.
- Input-output models do not take into account substitution effects or capacity constraints. As a result increases in demand for labour result in increases in employment, and do not factor in workers moving from other jobs.
- Input-output models capture linear relationships that exist in the economy, meaning that marginal changes are modelled as average changes. This also means that increases and decreases in production are assumed to have the same proportional impact.
- Input-output models are static models, meaning that they represent the structure of the economy at a given point in time and do not consider the amount of time required for impacts to be realized.

A detailed description of our methodology and assumptions are provided in Appendix A.

Data Sources

Data for the economic impact modelling were obtained from Ausenco and CMC, based on the Feasibility Study released in August 2022.¹² Assumptions and approaches to estimating the geographical distribution of spending were developed in collaboration with Ausenco and representatives from CMC. Additional material was collected through reviews of publicly available statistics, articles, and reports.

Mine Value Chain

A value chain can be defined as a chain of activities that combine to create products within specific sectors. For construction and development, operation, and closure and reclamation of a mine the size of Casino, direct impacts (e.g. employment at the mine) arise through the major activities associated with each stage while the indirect impacts (e.g., jobs at suppliers of services to the mine) arise through the linkages that exist with suppliers and other sectors. Such linkages are illustrated in Figure 1.

¹² M3 Engineering & Technology Corp. Casino Project: Form 43-101F1 Technical Report Feasibility Study. [Published August 8, 2022]. Page 12.

Figure 1: Value Chain Linkages

| | Pre-operation | Operation | Closure |
|------------------------------|--|--|--|
| Impacts from Core Activities | <p>Professional Services:</p> <ul style="list-style-type: none"> • Engineering firms • Environmental firms • Financial advisors <p>Skilled Trades:</p> <ul style="list-style-type: none"> • Construction companies • Drilling companies • Equipment suppliers • Transportation • LNG suppliers • Explosive suppliers • Surveying companies | <p>Professional Services:</p> <ul style="list-style-type: none"> • Engineering firms • Environmental firms • IT services • Financial institutions • Accounting firms • Commodity marketing <p>Hospitality and Food Services:</p> <ul style="list-style-type: none"> • Catering • Hotels • Laundry services <p>Manufacturing:</p> <ul style="list-style-type: none"> • Manufacturers • Clothing and equipment • Equipment suppliers <p>Skilled Trades:</p> <ul style="list-style-type: none"> • Warehousing • Transportation • Fuel companies | <p>Professional Services:</p> <ul style="list-style-type: none"> • Engineering firms • Environmental firms • Financial advisors • Laboratories <p>Hospitality and Food Services:</p> <ul style="list-style-type: none"> • Catering • Hotels <p>Skilled Trades:</p> <ul style="list-style-type: none"> • Construction companies • Equipment suppliers • Landscaping companies • Transportation companies • Hardware supply companies |
| Jobs Created | <p>Skilled Trades:</p> <ul style="list-style-type: none"> • Drillers • Claim staker • Equipment operators • Mill Foreman • Camp operators • Mine foreman • Mill maintenance • Safety officer • Expediting • Staking claims • Line cutting <p>Professional Services:</p> <ul style="list-style-type: none"> • Geophysicists • Geologists | <p>Support Labour:</p> <ul style="list-style-type: none"> • General Labour • Janitors and drymen • Blast helpers • Administrative assistants • Cook's helpers • Expeditors • Warehouse persons • Mine clerks <p>Skilled Trades:</p> <ul style="list-style-type: none"> • Drillers • Equipment operators • Electricians • Surveyors • Crusher operators • Samplers • Mechanics • Welders • Grinding operators • Flotation operators • Reagent operators • Dewatering operators • Steel erectors <p>Professional Services:</p> <ul style="list-style-type: none"> • Geophysicists • Accounts clerks • Plant manager | <p>Skilled Trades:</p> <ul style="list-style-type: none"> • Equipment operators • Heavy equipment mechanics • Inspectors • First Aid personnel • Security personnel • Labourers • Expeditors • Helicopter and aircraft pilots • Crane operators • Fuel truck drivers • Grader operators • Tree planters • Millwrights • Pipefitters • Plumbers <p>Professional Services:</p> <ul style="list-style-type: none"> • Human resources • Engineers • Water samplers • Environmental monitors • Environmental managers |

Economic Impacts of Construction and Development

Mine construction and development is the overarching process of establishing and preparing the specified area for mining operations. Activities include the development of road access pathways, site clearing and stripping of organics, construction of buildings and infrastructure, grading, site drainage, installation of utilities, and the construction of tailing facilities.¹³ Specialized professional services (such as engineers and geologists) and skilled trades, such as drilling and surveying companies are utilized in this phase to conduct studies and assessments, and to undertake the construction of the project.

The expenditures associated with the construction and development of the Casino project are expected to generate economic impacts through direct expenditures on goods and services, the generation of employment, and the generation of revenues for local, territorial and provincial, and federal governments. The total capital expenditure associated with the construction and development of the Casino mine project is estimated to be approximately \$3.62 billion (Table 1). Plant construction costs account for approximately 48.8 percent of the total capital expenditure, followed by plant equipment costs (24.4 percent), and mine equipment (12.0 percent).

Table 1: Capital Expenditures Summary (including contingency)

| Capital Expenditures | \$ Millions | % Of Total |
|---|----------------|---------------|
| Plant construction costs | \$1,764 | 48.8% |
| <i>Labour</i> | <i>\$583</i> | <i>16.1%</i> |
| <i>Material</i> | <i>\$438</i> | <i>12.1%</i> |
| <i>Engineering, procurement and construction management</i> | <i>\$339</i> | <i>9.4%</i> |
| <i>Construction equipment</i> | <i>\$316</i> | <i>8.7%</i> |
| <i>Camp operation</i> | <i>\$49</i> | <i>1.4%</i> |
| <i>Mobilization costs</i> | <i>\$37</i> | <i>1.0%</i> |
| <i>Construction power</i> | <i>\$2</i> | <i>0.1%</i> |
| Plant equipment | \$882 | 24.4% |
| Mine equipment | \$433 | 12.0% |
| Mine development | \$228 | 6.3% |
| Access road construction | \$103 | 2.8% |
| Freight costs | \$86 | 2.4% |
| Camp construction | \$80 | 2.2% |
| Owners Cost | \$41 | 1.1% |
| Total | \$3,617 | 100.0% |

Source: CMC.

Construction of the Casino project is expected to generate economic impacts throughout the Yukon and

¹³ BC Mine Information. Government of British Columbia. The Mining Lifecycle. Retrieved from: <https://mines.nrs.gov.bc.ca/lifecycle>

the rest of Canada. Detailed cost estimates associated with the construction of the Casino mine were provided to MNP by CMC. The cost estimates included estimates of the proportion of spending expected to occur within the Yukon and elsewhere in Canada. The distribution of cost estimates was consistent with spending patterns for mining operations in the Yukon based on review of Statistics Canada's Supply and Use Tables.¹⁴

As shown in **Table 2** the projected economic impacts of constructions and development of the Casino project are:

- Total output in the Yukon of \$2.95 billion, consisting of \$2.36 billion in direct output, \$0.37 billion in indirect output and 0.22 billion in induced output in the Yukon. In addition to the impacts in the Yukon, approximately \$1.26 billion in direct output, \$1.57 billion in indirect output and \$1.04 billion in induced output is estimated to be generated in the rest of Canada.
- Total GDP in the Yukon of \$1.73 billion, consisting of \$1.38 billion in direct GDP, \$0.20 billion in indirect GDP and \$0.15 billion in induced GDP. In addition to the impacts in the Yukon, approximately \$0.51 billion in direct GDP, \$0.7 billion in indirect GDP and \$0.61 billion in induced GDP is estimated to be generated in the rest of Canada.
- Total employment in the Yukon of 10,580 FTEs, consisting of 8,140 FTEs of direct employment, 1,590 FTEs of indirect employment and 850 FTEs of induced employment. In addition, employment of 4,430 direct FTEs, 6,030 indirect FTEs and 4,540 induced FTEs are estimated to be generated in the rest of Canada.
- Total government revenue in Canada of \$0.75 billion, consisting of \$0.30 billion in direct revenues, \$0.19 billion in indirect revenues and \$0.25 billion in induced revenues. Breakdowns for each level of government are provided in Section 5.

Measuring FTEs of Construction

Total FTEs represent the total number of hours of full-time work that would be generated in a one-year period. Each FTE could be one person working full-time, two people working full-time hours for six months, or six people working full-time hours for two months. On a construction project, the FTEs will be spread over the construction period. Consequently, a single person working full time hours for the three-year construction and development period would be counted as three FTEs and two people working full-time hours for six months on the project would be counted as one FTE.

¹⁴ The Supply and Use Tables provide a snapshot of the structure of the economy and the linkages among sectors. They include information on the flows of goods and services between provinces and territories, as well as imports used in each industry.

Table 2: Projected Construction and Development Impacts of the Casino Project¹⁵

| | Output (\$ millions) | GDP (\$ millions) | Employment (FTEs) | Labour Income ¹⁶ (\$ millions) | Federal Tax (\$ millions) | Yukon Territorial & Provincial Tax (\$ millions) | Other Tax (\$ millions) |
|------------------------------|-------------------------|----------------------|----------------------|---|------------------------------|--|----------------------------|
| Yukon Territory | | | | | | | |
| Direct | \$2,356 | \$1,378 | 8,140 | \$799 | \$130 | \$76 | \$6 |
| Indirect | \$371 | \$203 | 1,590 | \$137 | \$20 | \$13 | \$4 |
| Induced | \$222 | \$148 | 850 | \$55 | \$25 | \$16 | \$6 |
| Total | \$2,949 | \$1,729 | 10,580 | \$991 | \$175 | \$105 | \$16 |
| Rest of Canada | | | | | | | |
| Direct | \$1,261 | \$506 | 4,430 | \$358 | \$50 | \$35 | \$5 |
| Indirect | \$1,566 | \$780 | 6,030 | \$486 | \$78 | \$61 | \$16 |
| Induced | \$1,038 | \$611 | 4,540 | \$277 | \$87 | \$92 | \$27 |
| Total | \$3,865 | \$1,897 | 15,000 | \$1,121 | \$215 | \$188 | \$48 |
| All of Canada (Total) | | | | | | | |
| Direct | \$3,617 | \$1,884 | 12,570 | \$1,157 | \$180 | \$111 | \$11 |
| Indirect | \$1,937 | \$983 | 7,620 | \$623 | \$98 | \$74 | \$20 |
| Induced | \$1,260 | \$759 | 5,390 | \$332 | \$112 | \$108 | \$33 |
| Total | \$6,814 | \$3,626 | 25,580 | \$2,112 | \$390 | \$293 | \$64 |

¹⁵ Please note that the direct impacts of construction activity including employment and associated labour income are generated in the province/territory where construction is taking place. Although labour employed might be brought in from other parts of Canada it will be employed and paid in the Yukon. However, earnings associated with direct employment will be spent in the province/territory where the labour is procured from. To account for this, adjustments were made to the induced impacts based on 75 percent of labour being from outside Yukon.

¹⁶ Please note throughout the report, estimated labour income impacts includes employers' contributions or payments to benefit plans for the health and financial well-being of employees and their families.

Annual Economic Impacts of the Operations

This is the production phased of the mine, where operations will occur that include activities such as extraction, milling, and processing of raw materials.

The expenditures associated with the operations of the Casino project are expected to generate economic impacts through direct expenditures on goods and services, the generation of employment, and the generation of government revenues for local, territorial, First Nation and provincial, and federal governments.

The annual average operating expenditures for Casino mine project were estimated to be approximately \$645 million (Table 3).

Table 3: Estimated Annual Operating Revenues and Expenditures

| | \$ Millions |
|--|-------------|
| Revenues | \$1,508 |
| Operating Expenditures | \$645 |
| <i>Mine and plant annual expenditure</i> | \$551 |
| <i>Treatment and refining charges</i> | \$94 |

Source: CMC Financial Model.

As shown in **Table 4**, the estimated annual economic impacts of the operations of the Casino project are:

- Total output in the Yukon of \$2.17 billion, consisting of \$1.51 billion in direct output, \$0.5 billion in indirect output and \$0.16 billion in induced output in the Yukon. In addition to the impacts in the Yukon, approximately \$0.34 billion in indirect and induced output is estimated to be generated in the rest of Canada.
- Total GDP in the Yukon of \$1.31 billion, consisting of \$0.94 billion in direct GDP, \$0.27 billion in indirect GDP and \$0.1 billion in induced GDP. In addition to the impacts in the Yukon, approximately \$0.18 billion in indirect and induced GDP is estimated to be generated in the rest of Canada.
- Total employment in the Yukon of 2,830 FTEs, consisting of 700 FTEs of direct employment, 1,500 FTEs of indirect employment and 630 FTEs of induced employment. In addition, 1,050 FTEs of indirect and induced employment were estimated to be generated in the rest of Canada.
- Total government revenue in Canada of \$0.43 billion, consisting of \$0.31 billion in direct revenues, \$0.08 billion in indirect revenues and \$0.04 billion in induced revenues. Breakdowns for each level of government are provided in Section 5.

Table 4: Projected Annual Operating Impacts of the Casino Project¹⁷

| | Output (\$ millions) | GDP (\$ millions) | Employment (FTEs) | Labour Income (\$ millions) | Federal Tax (\$ millions) | Yukon Territorial, First Nation & Provincial Tax (\$ millions) | Other Tax (\$ millions) |
|------------------------------|-------------------------|----------------------|----------------------|-----------------------------------|------------------------------|---|----------------------------|
| Yukon Territory | | | | | | | |
| Direct | \$1,508 | \$943 | 700 | \$81 | \$161 | \$152 | \$0.1 |
| Indirect | \$507 | \$269 | 1,500 | \$164 | \$28 | \$20 | \$3.7 |
| Induced | \$158 | \$98 | 630 | \$41 | \$14 | \$12 | \$3.8 |
| Total | \$2,173 | \$1,310 | 2,830 | \$286 | \$203 | \$184 | \$7.6 |
| Rest of Canada | | | | | | | |
| Direct | - | - | - | - | - | - | - |
| Indirect | \$277 | \$147 | 820 | \$90 | \$15 | \$11 | \$2 |
| Induced | \$58 | \$36 | 230 | \$15 | \$5 | \$4 | \$1 |
| Total | \$335 | \$183 | 1,050 | \$105 | \$20 | \$15 | \$3 |
| All of Canada (Total) | | | | | | | |
| Direct | \$1,508 | \$943 | 700 | \$81 | \$161 | \$152 | \$0.1 |
| Indirect | \$784 | \$416 | 2,320 | \$254 | \$43 | \$31 | \$5.7 |
| Induced | \$216 | \$134 | 860 | \$56 | \$19 | \$16 | \$4.8 |
| Total | \$2,508 | \$1,493 | 3,880 | \$391 | \$223 | \$199 | \$10.6 |

As shown in **Table 5**, the estimated cumulative economic impacts from the operations of the Casino project, over the 27-year lifecycle of the mine are:

- Total output in the Yukon of \$58.7 billion, consisting of \$40.7 billion in direct output, \$13.7 billion in indirect output and \$4.3 billion in induced output in the Yukon. In addition to the impacts in the Yukon, approximately \$9.1 billion in indirect and induced output is estimated to be generated in the rest of Canada.

¹⁷ Please note that the direct impacts of operations including employment and associated labour income are generated in the province/territory where the operations are located. Although labour employed might be brought in from other parts of Canada it will be employed and paid in the Yukon. It was estimated that approximately 25 percent of the labour will be brought in from other parts of Canada. It was assumed that this labour would relocate to Yukon. Hence no adjustments were made to the induced impacts.

- Total GDP in the Yukon of \$35.4 billion, consisting of \$25.5 billion in direct GDP, \$7.3 billion in indirect GDP and \$2.6 billion in induced GDP. In addition to the impacts in the Yukon, approximately \$4.9 billion in indirect and induced GDP is estimated to be generated in the rest of Canada.
- Total employment in the Yukon of 76,410 FTEs, consisting of 18,900 FTEs of direct employment, 40,500 FTEs of indirect employment and 17,010 FTEs of induced employment. In addition, 28,350 FTEs of indirect and induced employment were estimated to be generated in the rest of Canada.
- Total government revenue in Canada of \$11.7 billion, consisting of \$8.5 billion in direct revenues, \$2.2 billion in indirect revenues and \$1.1 billion in induced revenues. Breakdowns for each level of government are provided in Section 5.

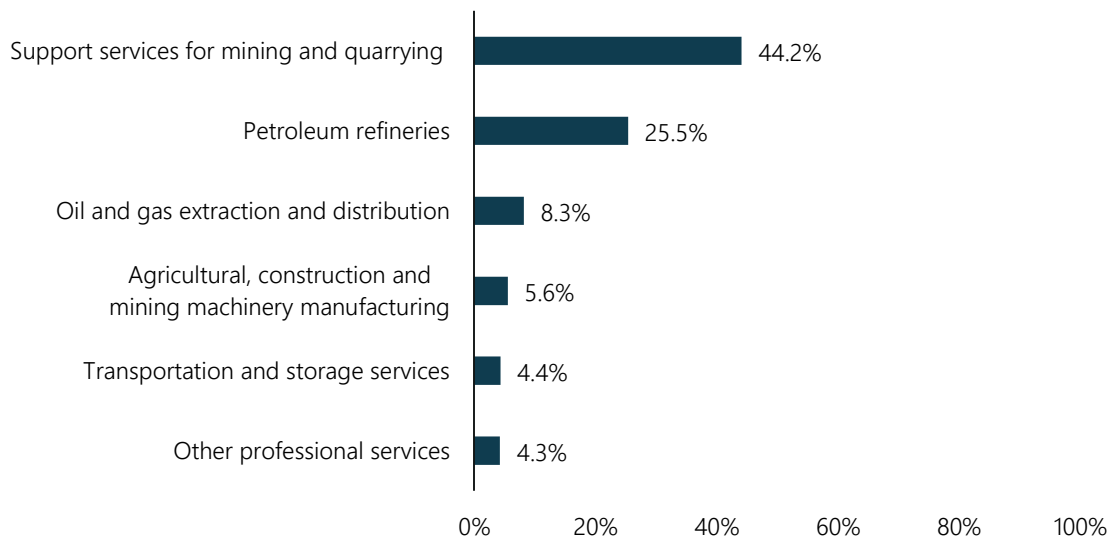
Table 5: Projected Cumulative Operating Impacts of the Casino Project over the 27-year Mine Lifecycle

| | Output (\$ millions) | GDP (\$ millions) | Employment (FTEs) | Labour Income (\$ millions) | Federal Tax (\$ millions) | Yukon Territorial & Provincial Tax (\$ millions) | Other Tax (\$ millions) |
|------------------------------|-------------------------|----------------------|----------------------|-----------------------------------|------------------------------|--|----------------------------|
| Yukon Territory | | | | | | | |
| Direct | \$40,716 | \$25,461 | 18,900 | \$2,187 | \$4,347 | \$4,104 | \$3 |
| Indirect | \$13,689 | \$7,263 | 40,500 | \$4,428 | \$756 | \$540 | \$100 |
| Induced | \$4,266 | \$2,646 | 17,010 | \$1,107 | \$378 | \$324 | \$103 |
| Total | \$58,671 | \$35,370 | 76,410 | \$7,722 | \$5,481 | \$4,968 | \$205 |
| Rest of Canada | | | | | | | |
| Direct | - | - | - | - | - | - | - |
| Indirect | \$7,479 | \$3,969 | 22,140 | \$2,430 | \$405 | \$297 | \$54 |
| Induced | \$1,566 | \$972 | 6,210 | \$405 | \$135 | \$108 | \$27 |
| Total | \$9,045 | \$4,941 | 28,350 | \$2,835 | \$540 | \$405 | \$81 |
| All of Canada (Total) | | | | | | | |
| Direct | \$40,716 | \$25,461 | 18,900 | \$2,187 | \$4,347 | \$4,104 | \$3 |
| Indirect | \$21,168 | \$11,232 | 62,640 | \$6,858 | \$1,161 | \$837 | \$154 |
| Induced | \$5,832 | \$3,618 | 23,220 | \$1,512 | \$513 | \$432 | \$130 |
| Total | \$67,716 | \$40,311 | 104,760 | \$10,557 | \$6,021 | \$5,373 | \$286 |

Impacts on Suppliers

The annual operations of the project are estimated to generate approximately \$565 million in expenditures on suppliers and services across Canada.¹⁸ **Figure 2** shows the distribution of spending on suppliers by type of supplier. Spending on support services for mining and quarrying which involve drilling contractors, blasting services, mine development engineering, and repairs and maintenance services were estimated to account for the largest share of expenditures (44.2 percent). Expenditures on petroleum refineries for gasoline, diesel and other lubricants and chemical products accounted for 25.5 percent. The oil and gas extraction and distribution sector were estimated to account for 8.3 percent, followed by construction and mining machinery (5.6 percent), transportation and storage services (4.4 percent), and other professional services such as banking, and insurance were estimated to account for 4.3 percent.

Figure 2: Distribution of Spending on Suppliers



Source: Statistics Canada 2018 Supply and Use Tables for the Yukon for Copper, Nickel, Lead and Zinc Ore Mining Industry Classification

Goods and services purchased within the Yukon were estimated to account for approximately 60 percent to 70 percent of total spending on suppliers (approximately \$370 million). These include support services for mining and quarrying, diesel, transportation and storage services as well as other professional services.¹⁹

¹⁸ This includes mine and plant annual expenditure net of labour costs and mining and refining costs. Statistics Canada Supply and Use Tables indicate that mines in the Yukon purchase approximately 60 percent of goods and services that are required from within the Yukon. CMC's financial projection estimates that 70 percent of goods and services would be purchased within the Yukon. Consequently, a range of 60 to 70 percent range was used.

Economic Impacts of the Casino Project's Closure and Reclamation

Closure and reclamation consist of repairing the “footprint” created by the mining operation. The closure component of this phase involves activities such as removing equipment, dismantling facilities, and safely closing all mine workings. The reclamation component involves backfilling the mine, contouring, re-vegetating and ensuring natural flooding can occur in the site area.²⁰

The expenditures associated with the closure and post-closure activity of the Casino project are expected to generate economic impacts through direct expenditures on goods and services, employment, and government revenues for local, territorial and provincial, and federal governments.

As shown in **Table 6**, the projected economic impacts from the closure and reclamation of the Casino project include:

- Total output in the Yukon of \$409 million, consisting of \$300 million in direct output, \$60 million in indirect output and \$49 million in induced output in the Yukon. In addition to the impacts in the Yukon, approximately \$129 million in indirect and induced output is estimated to be generated in the rest of Canada.
- Total GDP in the Yukon of \$255 million, consisting of \$185 million in direct GDP, \$36 million in indirect GDP and \$34 million in induced GDP. In addition to the impacts in the Yukon, approximately \$65 million in indirect and induced GDP is estimated to be generated in the rest of Canada.
- Total employment in the Yukon of 1,460 FTEs, consisting of 990 FTEs of direct employment, 300 FTEs of indirect employment and 170 FTEs of induced employment. In addition, 480 FTEs of indirect and induced employment were estimated to be generated in the rest of Canada.
- Total government revenue in Canada of \$64.2 million, consisting of \$32.6 million in direct revenues, \$14.2 million in indirect revenues and \$17.4 million in induced revenues. Breakdowns for each level of government are provided in Section 5.

Table 6: Projected Closure and Reclamation Impacts of the Casino Project

²⁰ Department of Natural Resources and Renewables. Government of Nova Scotia. The Mining Cycle. Retrieved from: <https://novascotia.ca/natr/meb/education/mining-cycle.asp>

| | Output (\$ millions) | GDP (\$ millions) | Employment (FTEs) | Labour Income (\$ millions) | Federal Tax (\$ millions) | Yukon Territorial & Provincial Tax (\$ millions) | Other Tax (\$ millions) |
|------------------------------|-------------------------|----------------------|----------------------|-----------------------------------|------------------------------|--|----------------------------|
| Yukon Territory | | | | | | | |
| Direct | \$300 | \$185 | 990 | \$88 | \$20 | \$12 | \$0.6 |
| Indirect | \$60 | \$36 | 300 | \$23 | \$3 | \$2 | \$0.9 |
| Induced | \$49 | \$34 | 170 | \$12 | \$5 | \$4 | \$1.3 |
| Total | \$409 | \$255 | 1,460 | \$123 | \$28 | \$18 | \$2.8 |
| Rest of Canada | | | | | | | |
| Direct | - | - | - | - | - | - | - |
| Indirect | \$82 | \$40 | 280 | \$22 | \$4 | \$3.5 | \$0.8 |
| Induced | \$47 | \$25 | 200 | \$13 | \$3 | \$3.3 | \$0.8 |
| Total | \$129 | \$65 | 480 | \$35 | \$7 | \$6.8 | \$1.6 |
| All of Canada (Total) | | | | | | | |
| Direct | \$300 | \$185 | 990 | \$88 | \$20 | \$12 | \$0.6 |
| Indirect | \$142 | \$76 | 580 | \$45 | \$7 | \$5.50 | \$1.7 |
| Induced | \$96 | \$59 | 370 | \$25 | \$8 | \$7.30 | \$2.1 |
| Total | \$538 | \$320 | 1,940 | \$158 | \$35 | \$24.8 | \$4.4 |

5. Government Revenue

The construction, operations, and closure and reclamation of the Casino project is expected to generate tax revenues for federal, territorial, and First Nation governments. This section provides a breakdown of the impacts for these governments for each of the following categories:

- Income taxes – personal and corporate income taxes.
- Taxes on products – sales taxes (e.g. GST, provincial sales taxes) on purchases.
- Taxes on production – property taxes, carbon taxes and mining royalties.

Please note that the estimates of tax revenues are based on tax policies and rates in place as of 2022. Changes in tax policies or rates could have a material impact on the taxes generated. Consequently, the estimates here are subject to change and should be viewed as approximations.

Federal

Table 7 summarizes the projected federal government revenues generated from the construction and development, operation and closure and reclamation of the Casino project. Over the lifecycle of the mine approximately \$6.4 billion in tax revenue was estimated to be generated for the federal government. Approximately 63 percent of federal revenues were estimated to be generated through income taxes, 29 percent were estimated to be generated from taxes on production (primarily the carbon tax) and the remainder were from taxes on products.

Table 7: Projected Tax Revenues for the Federal Government

| | Output (\$ millions) | Income Taxes (\$ millions) | Taxes on Products (\$ millions) | Taxes on Production (\$ millions) | Total Tax (\$ millions) |
|--|-------------------------|-------------------------------|------------------------------------|--------------------------------------|----------------------------|
| Construction and Development | | | | | |
| Direct | \$3,617 | \$174 | \$6 | \$0.2 | \$180 |
| Indirect | \$1,937 | \$91 | \$7 | \$0.3 | \$98 |
| Induced | \$1,260 | \$68 | \$43 | \$0.6 | \$112 |
| Total | \$6,814 | \$333 | \$56 | \$1.1 | \$390 |
| Operations (Cumulative Impacts over 27 Years) | | | | | |
| Direct | \$40,716 | \$2,298 | \$203 | \$1,846 | \$4,347 |
| Indirect | \$21,168 | \$1,080 | \$78 | \$3 | \$1,161 |
| Induced | \$5,832 | \$321 | \$189 | \$3 | \$513 |
| Total | \$67,716 | \$3,699 | \$470 | \$1,852 | \$6,021 |
| Closure and Reclamation | | | | | |
| Direct | \$300 | \$18 | \$2 | \$0 | \$20 |
| Indirect | \$142 | \$6 | \$0.5 | \$0.3 | \$7.0 |
| Induced | \$96 | \$5 | \$3 | \$0.4 | \$8.0 |
| Total | \$538 | \$29 | \$5.5 | \$0.7 | \$35 |
| Total Federal Revenues | | | | | |
| Direct | \$44,633 | \$2,490 | \$211 | \$1,846 | \$4,547 |
| Indirect | \$23,247 | \$1,177 | \$86 | \$4 | \$1,266 |
| Induced | \$7,188 | \$394 | \$235 | \$4 | \$633 |
| Total | \$75,068 | \$4,061 | \$532 | \$1,854 | \$6,446 |

Territorial

Table 8 summarizes the projected Yukon government revenues generated from the construction and development, operation and closure and reclamation of the Casino project. Over the lifecycle of the mine approximately \$4.8 billion in tax revenue was estimated to be generated for the Yukon government. Approximately 50 percent of the Yukon government revenues were estimated to be generated through income taxes, 44 percent were estimated to be generated from taxes on production and the remainder were from taxes on products.

Table 8: Projected Tax Revenues for the Yukon Government

| | Output (\$ millions) | Income Taxes (\$ millions) | Taxes on Products (\$ millions) | Taxes on Production (\$ millions) | Total (\$ millions) |
|--|-------------------------|-------------------------------|------------------------------------|--------------------------------------|------------------------|
| Construction and Development | | | | | |
| Direct | \$2,356 | \$72 | \$2 | \$2 | \$76 |
| Indirect | \$371 | \$10 | \$1 | \$2 | \$13 |
| Induced | \$222 | \$8 | \$6 | \$2 | \$16 |
| Total | \$2,949 | \$90 | \$9 | \$6 | \$105 |
| Operations (Cumulative Impacts over 27 Years) | | | | | |
| Direct | \$40,716 | \$1,763 | \$101 | \$1,994 | \$ 3,858 |
| Indirect | \$21,168 | \$421 | \$64 | \$55 | \$540 |
| Induced | \$5,832 | \$156 | \$116 | \$52 | \$324 |
| Total | \$67,716 | \$2,340 | \$281 | \$2,101 | \$4,722 |
| Closure and Reclamation | | | | | |
| Direct | \$300 | \$11 | \$0.8 | \$0.2 | \$12 |
| Indirect | \$142 | \$2 | \$0.1 | \$0.2 | \$2 |
| Induced | \$96 | \$2 | \$1.2 | \$1.0 | \$4 |
| Total | \$538 | \$15 | \$2 | \$1 | \$18 |
| Total Territorial Revenues | | | | | |
| Direct | \$43,372 | \$1,846 | \$104 | \$1,996 | \$3,946 |
| Indirect | \$21,681 | \$433 | \$65 | \$57 | \$555 |
| Induced | \$6,150 | \$166 | \$123 | \$55 | \$344 |
| Total | \$71,203 | \$2,445 | \$292 | \$2,108 | \$4,845 |

The direct tax estimates that will accrue to the Yukon Government as a result of the Casino project's operations include its share of mining royalties of approximately \$1.99 billion (\$74 million annually). Please also note that this estimate is before any federal financial agreement offsets (e.g., Territorial Formula Funding (TFF) and Resources Revenue Sharing (RRS) agreements). In the 2011 MNP Economic Impact Assessment of the Casino mine, we estimated that, as a result of the provisions that were contained in the Yukon fiscal arrangements with Canada, the Yukon Government would retain 78

percent of the annual tax and royalty amounts.²¹

First Nations

Under the Umbrella Final Agreement (“UFA”) Yukon First Nations receive a share of royalties paid on resources in the Yukon. The amount payable to First Nations is calculated annually as 50 percent of the first \$2 million in royalties paid to the Yukon government and 10 percent of all royalty payments collected by the Yukon government over \$2 million.²² The royalties paid on production by the Casino project were estimated to be approximately \$82.8 million annually or \$2.24 billion over the 27-year life of the mine.

Based on the terms of the UFA First Nations were estimated to receive approximately 11 percent of the total royalties which equates to \$246 million over the life of the mine (approximately \$9 million annually).

6. Conclusion

The Casino project will product significant economic impacts for the Yukon. In addition, economic impacts would be realized for provinces and territories across Canada. As shown in **Table 9**, the construction and development of the Casino project is estimated to generate:

- Total output of \$2.95 billion in the Yukon and \$3.86 billion in the rest of Canada
- \$1.73 billion of total GDP in the Yukon and \$1.90 billion of total GDP in the rest of Canada.
- Total employment of 10,580 FTEs in the Yukon and 15,000 FTEs in the rest of Canada.
- Total government revenues in Canada of \$0.75 billion.

Table 9: Total Construction and Development Impacts of the Casino Project

| Total Construction and Development Impacts (Direct, Indirect, and Induced) | Yukon | Rest of Canada | All of Canada (Total) |
|---|---------|-------------------|-----------------------------|
| Output (\$ millions) | \$2,949 | \$3,865 | \$6,814 |
| GDP (\$ millions) | \$1,729 | \$1,897 | \$3,626 |
| Employment (FTEs) | 10,580 | 15,000 | 25,580 |
| Labour Income (\$ millions) | \$991 | \$1,121 | \$2,112 |
| Federal Tax (\$ millions) | \$175 | \$215 | \$390 |
| Yukon Territorial and Provincial Tax (\$ millions) | \$105 | \$188 | \$293 |
| Other Tax (\$ millions) | \$16 | \$48 | \$64 |

²¹ It is our understanding that this percentage may now be higher as a result of recent changes in the resource revenues arrangements between the Government of Canada and Yukon. For more information on these changes please refer to http://www.gov.yk.ca/news/get-the-facts_dta.html.

²² Umbrella Final Agreement between the Government of Canada, the Council of Yukon First Nations and the Government of the Yukon,

As shown in **Table 10**, on an annual basis, the Casino project's operations is estimated to generate:

- Total output of \$2.17 billion in the Yukon and \$0.34 billion of total output in the rest of Canada.
- \$1.3 billion of total GDP in the Yukon and \$0.18 billion of total GDP in the rest of Canada.
- Total employment of 2,830 FTEs in the Yukon and 1,050 FTEs in the rest of Canada.
- Total government revenues in Canada of \$0.43 billion.

Table 10: Total Average Annual Operating Impacts of the Casino Project

| Total Average Annual Operating Impacts (Direct, Indirect, and Induced) | Yukon | Rest of Canada | All of Canada (Total) |
|---|---------|-------------------|-----------------------------|
| Output (\$ millions) | \$2,173 | \$335 | \$2,508 |
| GDP (\$ millions) | \$1,310 | \$183 | \$1,493 |
| Employment (FTEs) | 2,830 | 1,050 | 3,880 |
| Labour Income (\$ millions) | \$286 | \$105 | \$391 |
| Federal Tax (\$ millions) | \$203 | \$20 | \$223 |
| Yukon Territorial and Provincial Tax (\$ millions) | \$184 | \$15 | \$199 |
| Other Tax (\$ millions) | \$7.6 | \$3 | \$10.6 |

As shown in **Table 11**, the closure and reclamation of the Casino project is estimated to generate:

- Total output of \$409 million in the Yukon and \$129 million in the rest of Canada.
- \$255 million of total GDP in the Yukon and \$65 million in total GDP in the rest of Canada.
- Total employment of 1,460 FTEs in the Yukon and 480 FTEs in the rest of Canada.
- Total government revenue in Canada of \$64.2 million.

Table 11: Total Closure and Reclamation Impacts of the Casino Project

| Total Closure and Reclamation Impacts (Direct, Indirect, and Induced) | Yukon | Rest of Canada | All of Canada (Total) |
|--|--------|-------------------|-----------------------------|
| Output (\$ millions) | \$409 | \$129 | \$538 |
| GDP (\$ millions) | \$255 | \$65 | \$320 |
| Employment (FTEs) | 1,460 | 480 | 1,940 |
| Labour Income (\$ millions) | \$123 | \$35 | \$158 |
| Federal Tax (\$ millions) | \$28 | \$7 | \$35 |
| Yukon Territorial and Provincial Tax (\$ millions) | \$18 | \$6.8 | \$24.8 |
| Other Tax (\$ millions) | \$2.80 | \$1.60 | \$4.40 |

As shown in **Table 12**, the cumulative impacts of the Casino project from construction and development, operations, and closure and reclamation, over the 27-year mine lifecycle is estimated to generate:

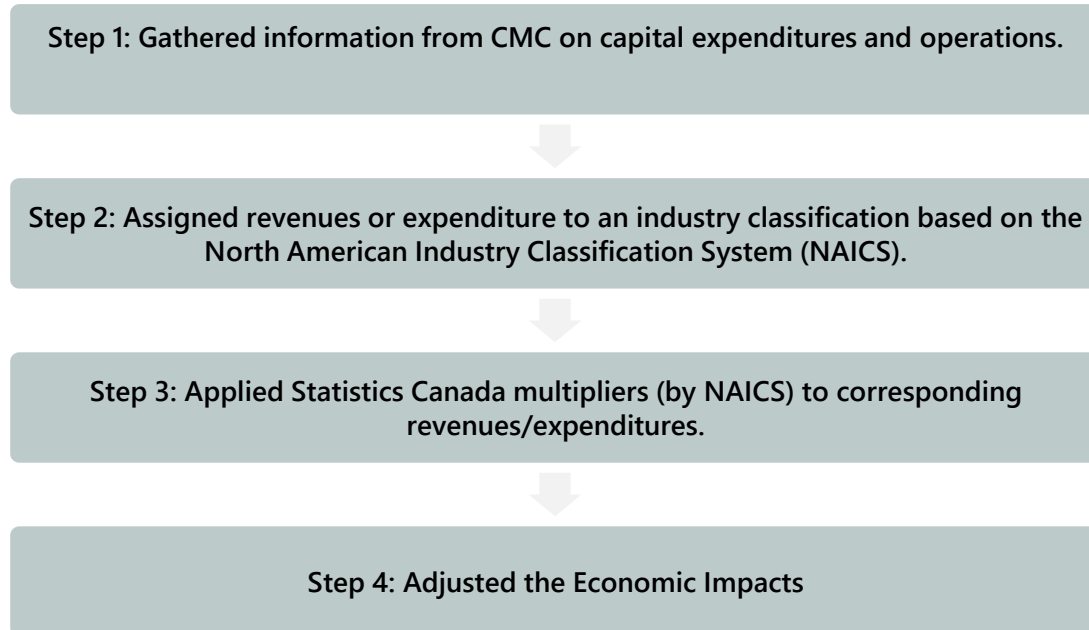
- Total output of \$62.0 billion in the Yukon and \$13.0 billion in the rest of Canada.
- \$37.4 billion of total GDP in the Yukon and \$6.9 billion in total GDP in the rest of Canada.
- Total employment of 88,450 FTEs in the Yukon and 43,830 FTEs in the rest of Canada.
- Total government revenue in Canada of \$12.5 billion.

Table 12: Cumulative Impacts over the 27-year Mine Lifecycle from Construction and Development, Operations, and Closure and Reclamation

| Cumulative Impacts (Direct, Indirect, and Induced) | Yukon | Rest of Canada | All of Canada (Total) |
|---|----------|-------------------|-----------------------------|
| Output (\$ millions) | \$62,029 | \$13,039 | \$75,068 |
| GDP (\$ millions) | \$37,354 | \$6,903 | \$44,257 |
| Employment (FTEs) | 88,450 | 43,830 | 132,280 |
| Labour Income (\$ millions) | \$8,836 | \$3,991 | \$12,827 |
| Federal Tax (\$ millions) | \$5,684 | \$762 | \$6,446 |
| Yukon Territorial and Provincial Tax (\$ millions) | \$5,091 | \$600 | \$5,691 |
| Other Tax (\$ millions) | \$224 | \$131 | \$355 |

Appendix A – Economic Impact Modelling Assumptions

MNP's approach to economic impact modelling is based on published Statistics Canada multipliers and input-output modelling. Below is a step-by-step overview of our approach to estimating the economic impacts.



Step 1: Gathered information from CMC on capital expenditures and operations.

MNP collected information on:

- Projected capital expenditures by major expenditure category and location.
- Projected operating revenues and expenditure over the mine lifecycle by major expenditure category and location.
- Closure and reclamation expenditures.
- Employment projected to be generated during plant construction, mine development and operation.
- Taxes including corporate income tax, carbon tax and royalties.

Step 2: Assigned revenues or expenditure to an industry classification based on the North American Industry Classification System (NAICS).

MNP assigned appropriate NAICS to each of the capital expenditures, reclamation expenditures and operating revenues.

Step 3: Applied Statistics Canada multipliers (by NAICS) to corresponding revenues/expenditures.

To estimate the economic impacts generated by capital and reclamation expenditures the relevant multipliers were applied to the expenditures. To estimate the economic impacts of operations the relevant multipliers were applied to the operating revenues.

Statistics Canada's input-output multipliers produced estimates of direct, indirect and induced impacts within the Yukon and rest of Canada across the economic categories of output, GDP, employment and taxes (taxes on products e.g., sales tax and taxes on production e.g., property taxes)

Step 4: Adjusted the Economic Impacts

Adjustment to Direct Impacts

The expenditure profiles and information collected in Step 1 were compared with the direct impact estimates generated by the multipliers such as labour income, employment, and taxes. Based on the comparison, appropriate adjustments were then made to the estimated direct economic impacts. This also included adding taxes not produced by the multipliers such as corporate income tax, labour income tax, carbon tax, and royalties.

Please note that the direct impacts of operations and construction activity (plant construction, camp construction, access road construction and mine development) including employment and associated labour income are generated in the province/territory where operations/construction activity are located. Although labour employed might be brought in from other parts of Canada it will be employed and paid in the Yukon.

Adjustment to Indirect Impacts

The indirect economic impacts of operations and construction activity were adjusted based on the geographic distribution of expenditures on suppliers and services provided.

Adjustment to Induced Impacts

It was assumed that labour income associated with direct construction employment will be spent in the province/territory where the labour is procured from. To account for this, adjustments were made to the induced impacts of construction based on 75 percent of labour being from outside the Yukon.

Sensitivity Analysis

We conducted a sensitivity analysis on the values produced by our model by comparing the 2018 multipliers from Statistics Canada that were used as the basis for our model to those produced by Statistics Canada for 2016 and 2017. There were some differences identified between the 2016 and 2017 multipliers and the 2018 multipliers. We then took an average of 2016, 2017 and 2018 multipliers and compared the estimates produced to our results. As shown in Table 13 the construction impact estimates produced using an average of the 2016 to 2018 multipliers tend to lower than those produced by the MNP model. The difference ranges from 1 percent to 13 percent for output, GDP and labour income. Employment estimates produced by the average of the 2016 to 2018 multipliers are higher than those produced by the MNP model.

Table 13: Construction Impacts: Average of 2016-2018 Multipliers compared with MNP Model

| | Output | GDP | Labour Income | Employment (FTEs) |
|--------------|------------|------------|---------------|-------------------|
| Direct | 0% | -7% | -13% | 10% |
| Indirect | -1% | -1% | -2% | 3% |
| Induced | -6% | -6% | -7% | -3% |
| Total | -1% | -5% | -9% | 5% |

As shown in **Table 14** the operational impact estimates produced using an average of the 2016 to 2018 multipliers produce direct GDP estimates three percent lower than MNP’s model while indirect output and GDP are between five percent and six percent higher. Differences in labour income, employment and induced impacts are primarily due to the use of forecast labour income and employment specific to the Casino project in the modelling, rather than the values produced by the multipliers.

Table 14: Operational Impacts: Average of 2016-2018 Multipliers compared with MNP Model

| | Output | GDP | Labour Income | Employment (FTEs) |
|--------------|-----------|-----------|---------------|-------------------|
| Direct | 0% | -3% | 245% | 160% |
| Indirect | 5% | 6% | 5% | 11% |
| Induced | 67% | 67% | 64% | 72% |
| Total | 7% | 6% | 63% | 52% |

As shown in **Table 15** the reclamation impact estimates produced using an average of the 2016 to 2018 multipliers are similar to those produced by MNP’s model for all measures except direct employment. MNP’s estimates of direct employment are approximately 27 percent lower, while indirect and induced are comparable.

Table 15: Reclamation Impacts: Average of 2016-2018 Multipliers compared with MNP Model

| | Output | GDP | Labour Income | Employment (FTEs) |
|--------------|------------|-----------|---------------|-------------------|
| Direct | 0% | 1% | 3% | 27% |
| Indirect | -4% | -3% | -4% | 0% |
| Induced | -1% | -1% | -3% | -2% |
| Total | -1% | 0% | 0% | 14% |

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