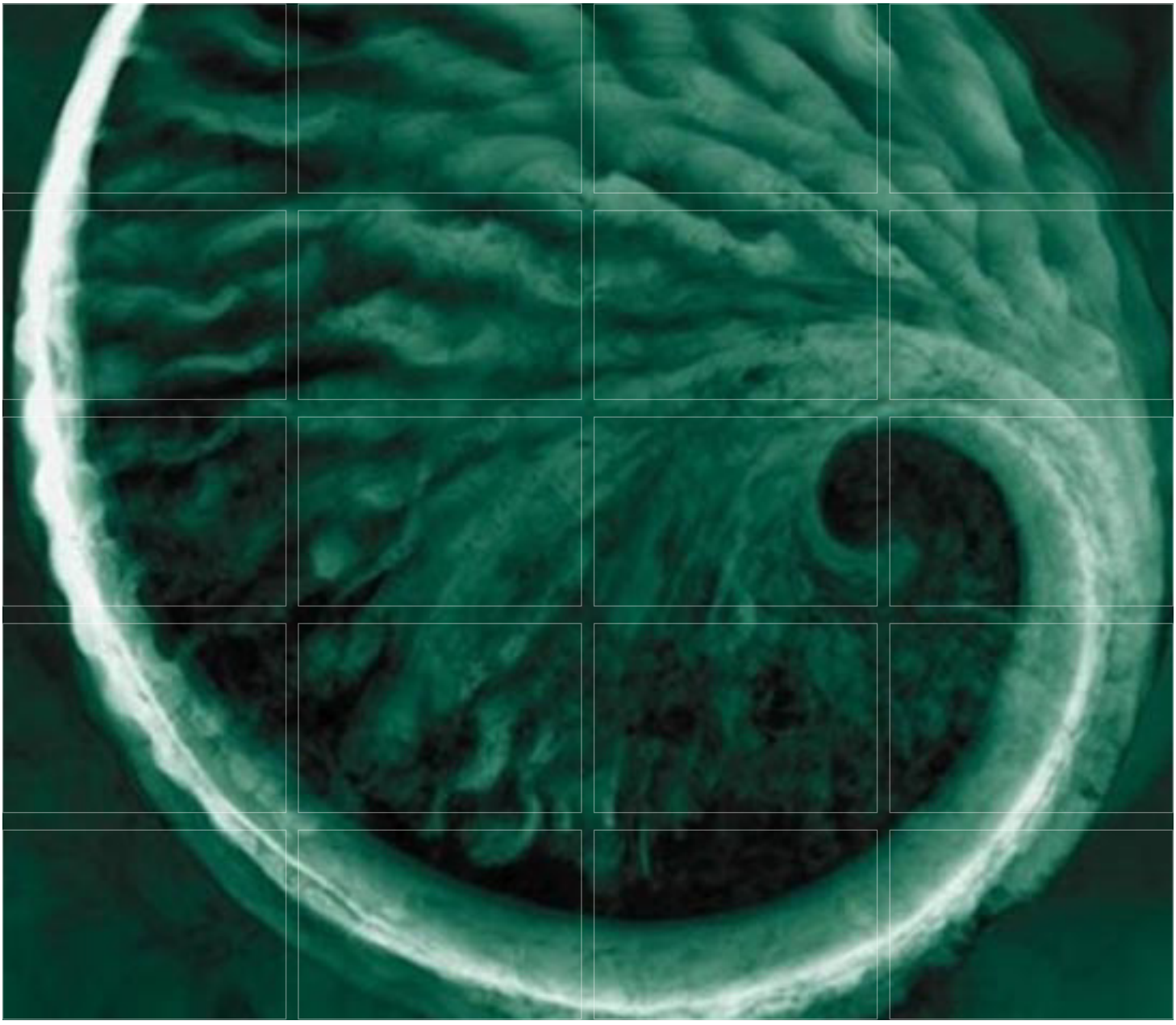
Appendix V6-3B

Phase 2 of the Hope Bay Project: Economic Impact Model Report

TMAC RESOURCES



Prepared for:

TMAC RESOURCES

PHASE 2 OF THE HOPE BAY PROJECT

Economic Impact Model Report

December 2016

ERM

The business of sustainability

TMAC Resources Inc.

PHASE 2 OF THE HOPE BAY PROJECT
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ERM
ERM Building, 15th Floor
1111 West Hastings Street
Vancouver, BC
Canada V6E 2J3
T: (604) 689-9460
F: (604) 687-4277

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PHASE 2 OF THE HOPE BAY PROJECT
Economic Impact Model Report

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GLOSSARY AND ABBREVIATIONS

Terminology used in this document is defined where it is first used. The following list will assist readers who may choose to review only portions of the document.

Construction	The phase of the project during which the mine is constructed.
Direct Impact	Employment, income, GDP and tax revenue generated directly by the Phase 2 Project, including the resulting employment, income, GDP and tax revenue generated by industries directly contracted to supply the on-site goods and services used for Phase 2.
EA	Environmental Assessment
Economic Impact	The result or effect that the mine development has on the economy of a particular region. Often described in terms of employment, personal income, GDP, and government tax revenue effects.
EIS	Environmental Impact Statement
EPCM	Engineering, Procurement and Construction Management
FTE	Full-time equivalent (standard 2,080 hrs per year worked)
GDP	Gross Domestic Product. The value-added by economic activity, principally composed of personal income and corporate profits.
G&A	General and Administrative
Hope Bay Project	All development within the Hope Bay Greenstone Belt, including existing and approved projects (the Doris Project, Hope Bay Regional Exploration, Madrid Advanced Exploration, and Boston Advanced Exploration) and the proposed Phase 2 Project.
Indirect Impact	Employment, income, GDP and tax revenue associated with all industries that are ultimately supplying the goods and services used by the industries directly supplying the Phase 2 Project, and include all transactions to the beginning of the supply chain (excluding direct on-site suppliers to the Phase 2 Project and the Phase 2 itself).
Induced Impact	Employment, income, GDP and tax revenue associated with economic activity because of workers spending their incomes on goods and services, including those directly and indirectly employed because of the Project.
NIRB	Nunavut Impact Review Board
km	Kilometres

LOM	Life-of-mine
Operation	The phase of the project during which the mine is producing.
OPEX	Operating expenditures
Phase 2	The proposed development within the Hope Bay Greenstone Belt, subject of the EIS, consisting of commercial mining at the Madrid (North and South) and Boston sites, the continued operation of Roberts Bay and the Doris Site to support mining at Madrid and Boston.
Project, the	Phase 2 of the Hope Bay Project
TMAC	TMAC Resources Inc.
tpd	tonnes per day

1. INTRODUCTION

1.1 THE PROJECT

Phase 2 of the Hope Bay Project (the Project) is a proposed gold mine development located in the Kitikmeot Region, Nunavut, approximately 685 km northeast of Yellowknife and 160 km southwest of Cambridge Bay (Figure 1.1-1). The nearest settlements are Umingmaktok, located 75 km to the west, and Kingaok (Bathurst Inlet), located 110 km southwest. The Project, along with the existing Doris Project, is part of the development of the Hope Bay Greenstone Belt, comprising one contiguous property approximately 80 km by 20 km. TMAC Resources Inc. (TMAC), the owner of the Project, has concessions covering 100% of the entire Hope Bay Project area.

The production at the Project is designed for up to 4,800 tonnes per day (tpd) with a processing facility producing doré gold bars, to be shipped out of Nunavut for further processing. Three main mine deposits, including Madrid North, Madrid South and Boston, make up the sources of ore that will be produced during the Phase 2 mine life. This report focuses on the economic impacts of the Construction and Operation phases of the Phase 2 development.

1.1.1 Construction

Phase 2 construction will utilize the existing infrastructure associated with the Doris Project and exploration programs. This may include:

- all-weather airstrip at the Boston exploration area and helicopter pad;
- seasonal construction and/or operation of winter ice strip on Aimaokatalok Lake;
- Boston accommodations facility with capacity for up to 65 people during construction, and Quarry D Camp with capacity for up to 100 people;
- seasonal construction/operation of Doris to Boston winter road route;
- three existing quarry sites along the Doris to Windy all-weather road;
- Doris accommodations facility with capacity for up to 280 people;
- Doris airstrip, winter ice strip, and helicopter pad;
- Roberts Bay offloading facility and road to Doris; and
- Madrid North and Madrid South sites and access roads.

Figure 1.1-1
Hope Bay Project Location

Additional infrastructure to be constructed for the proposed Phase 2 Project includes:

- expansion of the Doris tailings impoundment area (raising of the South Dam, construction of West Dam, and development of a west road to facilitate access);
- construction of an off-loading cargo dock at Roberts Bay (including a fuel pipeline, expansion of the fuel tank farm and laydown area);
- construction of an additional tank farm at Roberts Bay;
- complete development of the Madrid North and Madrid South underground workings;
- incremental expansion of infrastructure at Madrid North and Madrid South to accommodate production mining;
- construction of a concentrator, fuel storage and a power plant, and, laydown at Madrid North;
- all weather access road and tailings line from Madrid North to the south end of the tailings impoundment area;
- all weather road linking Madrid to Boston (approximately 53 km in length, nine quarries for permitting purposes, four of which will likely be used);
- all-weather airstrip at Boston;
- all infrastructure necessary to support mining and milling activities at Boston including construction of a new 200-person accommodations facility at Boston and associated support facilities, additional fuel storage, laydown area, ore pad, waste rock pad, concentrator, diesel power plant, and dry-stack tailings management area at Boston; and
- infrastructure necessary to support ongoing exploration activities at both Madrid and Boston.

1.1.2 Operation

Phase 2 Project is intended to cover the proposed incremental development of the Hope Bay Greenstone Belt. The operation phase includes:

- mining of the Madrid North, Madrid South, and Boston deposits;
- transportation of ore from Madrid North, Madrid South and Boston to the Doris mill, and transportation of concentrate from the Madrid North concentrator and Boston concentrator to Doris for final gold refining;
- extending the operation at Roberts Bay and Doris;
- processing the ore and/or concentrate from Madrid North, Madrid South and Boston at the Doris mill with disposal of the leached tailings underground, with the tailings pumped to the expanded Doris tailings impoundment area and discharge of the effluent to the marine environment;
- operation of a concentrator at Madrid North and disposal of tailings at the Doris tailings impoundment area;

- operation of a concentrator at Boston and disposal of tailings to the Boston tailings management area; and
- on-going maintenance of transportation infrastructure (cargo dock, jetty, roads, and quarries).

1.1.3 Schedule

The development of the Phase 2 Project is planned to be sequential, with production beginning at some sites while construction elsewhere is still ongoing (e.g., mining at Madrid North will occur when Boston is still being constructed). For the purposes of the economic impact analysis and the Environmental Impact Statement (EIS) for the Phase 2 Project, distinct Construction and Operation phases are defined (Table 1.1-1). It is understood that construction and operation activities will, in fact, overlap among sites.

Table 1.1-1. Temporal Boundaries for the Economic Impact Analysis

Phase	Project Year	Calendar Year	Length of Phase (Years)	Description of Activities
Construction	1 - 4	2019 - 2022	4	• **Roberts Bay:** construction of marine dock and additional fuel facilities (Year 1 – Year 2); • **Doris**: expansion of the Doris TIA and accommodations facility (Year 1); • **Madrid North:** construction of process plant and road to Doris TIA (Year 1); • **All-weather Road**: construction (Year 1 – Year 3); • **Boston**: site preparation and installation of all infrastructures including process plant (Year 2 – Year 5).
Operation	5 - 14	2023 - 2032	10	• **Roberts Bay**: shipping operations (Year 1 – Year 14) • **Doris**: mining (Year 1 - 4); milling and infrastructure use (Year 1 – Year 14); • **Madrid North:** mining (Year 1 – 13); ore transport to Doris mill (Year 1 -13); ore processing and concentrate transport to Doris mill (Year 2 – Year 13); • **Madrid South:** mining (Year 11 – Year 14); ore transport to Doris mill (Year 11 – Year 14); • **All-weather Road**: operational (Year 4 – Year 14); • **Boston**: winter access road operating (Year 1 – Year 3); mining (Year 4 – Year 13); ore transport to Doris mill (Year 4 – Year 5); processing ore (Year 6 – Year 13); and concentrate transport to Doris mill (Year 6 – Year 13).

This report provides economic impact analysis for the Project as part of the EIS for submission to the Nunavut Impact Review Board (NIRB). Economic impact analysis takes into account Project capital and operating expenditures, as well as Project employment, and estimates the resulting impacts on the regional, territorial and national economies. For the purposes of the economic modeling, the Project Description is as assumed for the EIS.

1.2 ECONOMIC IMPACT STUDY SCOPE

The economic impacts of the Project are a result of the direct supplier procurement and workforce employment. Using this data as input, the indirect and induced employment, personal income, Gross Domestic Product (GDP), and government revenue effects are predicted. Estimation of this information requires a detailed economic impact analysis, the results of which are included as part of the EIS for the Project. The purpose of this report is to describe the results of the economic impact model for the Project.

For the Project, ERM with EcoTec Consultants employed a proprietary economic impact model that is based on Statistics Canada's Input-Output Model. This model has a number of benefits including the ability to: (1) adjust the model structure to be more specific to the Project rather than being based on general statistical averages from secondary data sources; (2) with the use of econometric modules, incorporate dynamic model behaviour rather than relying strictly on a linear, static input-output structure; and (3) generate estimates at the sub-provincial or sub-territorial level rather than only at the provincial or territorial level. This approach has been successfully used in over 250 projects across Canada. Some examples include the Mary River Project (Nunavut), the Jansen Mine Project (Saskatchewan), the KSM Mine Project (British Columbia), the Voisey's Bay Mine Project (Labrador), the Brunswick Mine (New Brunswick), the Back River Project (Nunavut), various mine projects in northern Quebec, and a sector-wide analysis of mining impacts in the Yukon, as well as many other mining, oil and gas, forestry, and fisheries sector projects.

2. METHOD

2.1 BACKGROUND

An economic impact model was used to estimate the direct, indirect, and induced benefits of the Project. Each of these can be distinguished as follows:

- direct impacts are the employment, personal income, GDP and government tax revenue generated directly by the Project, including the impacts generated by industries directly contracted to supply the on-site goods and services used by the Project;
- indirect impacts are the employment, personal income, GDP and government tax revenue associated with all industries that are ultimately supplying the goods and services used by the industries supplying the Project, and includes all transactions to the beginning of the supply chain (excluding direct on-site suppliers to the Project and the Project itself); and
- induced impacts are the employment, personal income, GDP and government tax revenue associated with economic activity because of workers spending their incomes on goods and services, including those directly and indirectly employed because of the Project.

The DYNATEC model is based on Statistics Canada's Input-Output Model of the economies of Canada and the provinces and territories, but incorporates econometric modules to allow for dynamic, non-linear simulations of the likely effects. With the use of econometric modules, the linear behaviour of the base input-output model is reduced to more closely mimic the real economy. A key characteristic of the model is that it is dynamic and is able, through each iteration of revenues and expenditures, to show how the economic impacts are distributed on a yearly basis. This provides for a more realistic understanding of the actual annual economic benefits as the initial expenditures work their way through the economy.

The current version of the DYNATEC model uses the 2011 dataset of Statistics Canada's Input-Output Model, enhanced with data from various sources dating from 2011 to 2015. The core of the model operates at a level of aggregation consisting of 295 commodities and 117 industries. Both open and closed versions of the model were run. The open model is used to estimate indirect effects (effects from inter-industry purchases of goods and services), while the closed version is used to estimate induced effects (effects from spending of after-tax household income, primarily from wages and salaries, taking into account the propensity to save).

In addition to the model's ability to simulate the dynamic nature of the economy, a key characteristic of the model is its ability to provide estimates of the distribution of the effects by region (i.e., for the three regions of Nunavut, including the Kitikmeot Region). The model does this through a mathematical allocation that takes into account the characteristics of existing industries and business within each region, current economic structures and supplier relationships, and employment and skill base profiles.

The output statistics of the economic impact modelling are provided in constant 2016 Canadian dollars and include:

- employment;
- personal income;
- GDP; and
- government tax revenues.

2.2 OVERVIEW OF METHOD

Economic impact simulations begin with an input to the economy as represented by capital expenditures (CAPEX) and operation expenditures (OPEX). The main algorithm allocates the expenditures on each good and service purchased by the Project to the producing industries. These suppliers, in turn, purchase goods and services required to produce the items originally purchased directly by the Project.

The core of the model operates with a standard input-output algorithm. When expenditures first enter the model they are applied, for this Project, primarily to construction, machinery, and equipment sectors. Import coefficients are applied to account for the leakage of expenditures for items that are not produced within the province or territory. Sales within the province or territory are allocated to the industries that produce the specific goods and services purchased; each of these industries will, in turn, purchase goods and services to produce what they sell as determined by their technology mix and use of factors of production (labour and capital). For purchases outside of the territory, an interprovincial trade flow matrix is used to allocate production by industry and province or territory.

The model continues to iterate until all expenditures have dissipated (i.e., imports, taxes, and savings are all leakages that eventually reduce the amount of money available for purchases to zero). At this point, the model is stopped and the total effects as measured by gross production (sales) by industry are summed for all iterations. Using the estimate of gross production, industry-specific employment coefficients, and data on salaries by industry, employment numbers are estimated. GDP is estimated by subtracting the primary input components from gross production, also determined by industry-specific coefficients. The primary input components include indirect taxes, subsidies, salaries and benefits for employees, profits, and depreciation.

Tax revenue from personal income tax, corporate tax, and indirect tax (predominantly sales tax) is calculated with coefficients derived from Statistics Canada and Canada Revenue Agency information. The amount of money collected by governments is subtracted from wages and salaries and profits at each round of expenditures. Within the model, 32 personal income tax coefficients are used to account for different income tax brackets.

To calculate the distribution of economic impacts by region, regional weights are calculated and used to allocate expenditures. The mathematics used to allocate by region take into account:

- the nature of the industry and whether or not the purchased good or service is likely to be supplied by local firms or by firms from elsewhere;
- distance from the supplier (which can be more important for some industries than others);

- the regional economic structure (industries with a strong presence in a given region are likely to be suppliers);
- the size of the local economy (a local labour supply and market for goods and services supports the development of local business); and
- transportation networks (a region well-served by transportation will be in a better position to be a regionally important supplier).

2.3 INPUT DATA

2.3.1 Construction Phase Expenditures

During the Construction phase of the Project, capital expenditures (CAPEX), including labour, is estimated at $367.0 million. This CAPEX is to be spent over a four year period, from 2019 (Year 1) to 2022 (Year 4; Table 2.3-1).

Table 2.3-1. Construction Phase Expenditures (Millions of Canadian Dollars) by Year

Cost Category	Total	Year 1 2019	Year 2 2020	Year 3 2021	Year 4 2022
Capital Expenditures (CAPEX)	$367.0	$95.3	$106.1	$104.4	$61.1
Operating Expenditures (OPEX)	$442.3	$4.3	$70.6	$168.6	$198.8
Total Expenditures during the Construction Phase	**$809.3**	**$99.6**	**$176.7**	**$273.0**	**$259.9**

Note: Values may not add up due to rounding.

Capital is expected to be sourced primarily from within Alberta and Ontario. Some expenses are also expected in British Columbia, Quebec and the Northwest Territories. Further, it is expected that all of process equipment and at least a half of infrastructure purchases will be via direct import.

In addition to CAPEX, from 2019 to 2022 there will be operating expenditures (OPEX) incurred as mining at Madrid begins (Table 2.3-1). Total expenditures for the Construction phase are estimated at $809.3 million, including $367.0 million in CAPEX and $442.3 million in OPEX.

2.3.2 Operation Phase Expenditures

The Operation phase, as defined for the EIS, is set to start in 2023 (Year 5) and end in 2032 (Year 14). The total OPEX for the Operation phase is estimated at $2,723.0 million (Table 2.3-2). In addition, CAPEX during this phase is estimated to be $144.8 million, mainly for sustaining capital (capital investments required to sustain production). All expenditures during the Operation phase total $2,867.8 million.

Main jurisdictions expected to benefit from Operation phase expenditures include Alberta, British Columbia, Ontario, Quebec and Nunavut. Some spending is also expected to take place in the Northwest Territories, Nova Scotia and Newfoundland and Labrador. Fuel and some consumables related to processing will be obtained via direct import. Nunavut is mainly expected to benefit from labour income associated with operations, as well as imposts (consisting of payments to Inuit organizations) and miscellaneous spending.

Table 2.3-2. Operation Phase Expenditures (millions of Canadian dollars) by Year

Cost Category	Total Production	Year 5 2023	Year 6 2024	Year 7 2025	Year 8 2026	Year 9 2027	Year 10 2028	Year 11 2029	Year 12 2030	Year 13 2031	Year 14 2032
Operating Expenditures (OPEX)	**$2,723.0**	$248.5	$298.2	$298.2	$298.2	$298.2	$298.2	$298.2	$298.2	$287.7	$99.2
Capital Expenditures (CAPEX)	**$144.8**	$57.3	$16.5	$5.8	$7.8	$11.5	$11.1	$11.3	$11.6	$9.2	$2.8
Total Expenditures during the Operation Phase	**$2,867.8**	**$305.8**	**$311.7**	**$304.0**	**$306.0**	**$309.7**	**$309.3**	**$309.5**	**$309.8**	**$296.9**	**$102.0**

Note: Values may not add up due to rounding. G&A = General and Administrative

2.3.3 Workforce

In total, over the life-of-mine (LOM), an estimated 10,470 person-years of direct employment will be created at the Phase 2 Project, including 1,353 person-years for the CAPEX workforce and 9,117 for the OPEX workforce (Table 2.3-3). Employment will begin in 2019 (Year 1) at an estimate 411 persons (full-time equivalent, FTE), increasing to approximately 808 in 2021 (Year 3), decreasing modestly for the next two years, and sustaining through the rest of the Operation phase from between 824 to 865 persons (FTE).

2.4 MODEL CAVEATS

The main caveats and limitations associated with the economic impact modeling are:

- The structure of the economy is assumed to be largely as it was in 2011, the most recent baseline data year for the Statistics Canada Input-Output Model available at the time of the initiation of modelling work. Any substantive structural changes in the economy, including changes in the use of factors in production, changes in technology, and/or changes in inter industry purchase patterns, will result in a loss of model accuracy.
- Production technologies are assumed to be uniform and consistent. In estimating the distribution of economic impacts, the model is not able to account for any differences in the technologies used by firms or industries within the same sector.
- Because the model operates at a macro level, it is not able to predict how economic impacts may be distributed among or differ between socio-economic segments of society.
- The model is not able to take into account economies of scale. The presence of economies of scale means both that the proportional use of factors of production by the Project and inter industry relationships may change.
- It is assumed that the Project will have no measurable, permanent impact on wage levels, productivity or consumer behaviour, in aggregate. In other words, the model is not able to account for substantive changes in the structure or behaviour of the economy as a result of the impacts of the Project.
- The model assumes no limits to growth. All factors of production, including labour and capital, are assumed to be available for use, and there are no other exogenous factors that may affect economic production.
- The estimation of GDP impacts by the model does not include direct business operating profit from the Project. This component of GDP is excluded from all reported direct and total GDP figures. The direct GDP estimated by the model is principally labour expense. The estimates of indirect and induced GDP do include all components of GDP.
- The estimation of government tax revenues by the model is limited primarily to personal income tax, indirect corporate tax, and sales tax. It does not include direct corporate taxes, land taxes or rents, or any royalties paid by the Project.

Table 2.3-3. Project Workforce (person-years) by Year

Area	Year 1 2019	Year 2 2020	Year 3 2021	Year 4 2022	Year 5 2023	Year 6 2024	Year 7 2025	Year 8 2026	Year 9 2027	Year 10 2028	Year 11 2029	Year 12 2030	Year 13 2031	Year 14 2032	Total
CAPEX Workforce	298	222	363	158	129	45	10	9	8	7	24	45	27	8	1,353
OPEX Workforce	113	243	445	466	490	810	815	815	820	820	820	820	820	820	9,117
Total	**411**	**465**	**808**	**624**	**619**	**855**	**825**	**824**	**828**	**827**	**844**	**865**	**847**	**828**	**10,470**

The assumed sourcing of workers (i.e., province or territory of residence) is shown in Table 2.3-4. This distribution is based on the experience of the Doris Project to date, the achievements reported by other projects in Nunavut and the Northwest Territories, and professional opinion of TMAC and ERM.

Table 2.3-4. Assumed Source of Direct Labour (Contractors and Owner Employees)

		Operation			
Province or Territory	Construction	Mining	Processing	Surface	G&A
Alberta	25%	0%	20%	20%	30%
British Columbia	20%	10%	35%	35%	20%
Manitoba	2%	0%	0%	0%	0%
New Brunswick	2%	0%	0%	0%	0%
Newfoundland and Labrador	10%	60%	0%	0%	0%
Northwest Territories	10%	5%	0%	0%	10%
Nova Scotia	2%	5%	0%	0%	0%
Nunavut	15%	5%	25%	25%	30%
Ontario	5%	10%	10%	10%	10%
Prince Edward Island	0%	0%	0%	0%	0%
Quebec	3%	5%	10%	10%	0%
Saskatchewan	6%	0%	0%	0%	0%
Yukon	0%	0%	0%	0%	0%

Notes: The labour estimate covers all on-site positions and positions in Cambridge Bay. Units are in person-years (i.e., 2080 standard hours/year). G&A = General and Administrative

Economic input-output models are one of the best ways to meaningfully estimate regional, territorial and national level impacts of a project. However, the model necessarily is based on the structure and function of the economy as it has been in the recent past. The model is not able to take into account the changes that may occur in the economy over time, nor is it able to account for the effect of Project mitigation or benefit enhancement measures, such as those that will be associated with the Inuit Impact and Benefit Agreement (IIBA) with the Kitikmeot Inuit Association (KIA). Thus, the output statistics of the model used to estimate the economic impacts of the Project may be conservative – that is, they provide a picture of what is expected based on the status quo performance of the economy. Actual economic benefits realized from the Project, particularly within the Kitikmeot Region, may be greater than predicted once mitigation and benefit enhancement measures are applied. Similarly, the development of other large projects in Nunavut, in particular other mine projects such as the Back River Project, may result in changes to the labour and business markets, also potentially affecting the size and distribution of the benefits to Nunavut as predicted by the model.

3. RESULTS

3.1 CONSTRUCTION PHASE

3.1.1 Canada

The Construction phase of the Project is estimated to result in a total of 6,685 person-years of direct, indirect and induced employment across Canada (Table 3.1-1). The Project will create 585 person-years of direct, indirect and induced employment in the first year of construction (2019), 1,026 person-years in the second year (2020), 1,852 person-years in the third year (2021), and 2,292 person-years in the fourth year (2022). Thereafter, indirect and induced employment will continue as the construction expenditures cycle through the economy, dissipating by year 2027.

Table 3.1-1. Annual Economic Impacts of Project Construction for Canada

Year	Employment (Person-years)	GDP (Millions of Dollars)	Tax Revenue (Millions of Dollars)		
			Federal	Provincial/Territorial	Total
2019	585	$53.2	$6.0	$4.6	$10.6
2020	1,026	$116.3	$12.7	$9.8	$22.5
2021	1,852	$197.5	$21.6	$16.7	$38.3
2022	2,292	$261.3	$29.1	$22.5	$51.7
2023	599	$62.8	$7.3	$5.7	$13.0
2024	206	$22.3	$2.7	$2.1	$4.8
2025	75	$8.3	$1.0	$0.8	$1.8
2026	29	$3.3	$0.4	$0.3	$0.7
2027	22	$1.6	$0.2	$0.2	$0.3
2028	0	$0.6	$0.1	$0.1	$0.1
2029	0	$0.2	$0.0	$0.0	$0.1
2030	0	$0.1	$0.0	$0.0	$0.0
Total	**6,685**	**$727.4**	**$81.2**	**$62.7**	**$143.9**

The total GDP impact is estimated at approximately $727.4 million. The Project will also bring government revenues of approximately $81.2 million to the federal and $62.7 million to the provincial and territorial governments across Canada; this revenue will primarily come from personal income tax, indirect corporate tax and sales tax (Table 3.1-1). The economic impact model does not estimate direct taxes paid by the Project.

Economic impacts of the Project's Construction phase will occur in all provinces and territories (Table 3.1-2). As expected, the construction of the Project will benefit Nunavut as it will create an estimated 473 person-years of direct, indirect and induced employment and contribute as much as $58.1 million in GDP. The Project is expected to create 1,633 person-years of employment in Ontario with GDP benefits of $166.7 million. The province of Alberta is expected to gain 1,200 person-years of employment and $142.2 million in GDP benefits. Further, British Columbia is expected to benefit

in 1,183 person-years of employment and $125.8 million in GDP. Significant economic impacts, both in terms of person-years of employment and GDP, will be also present in Quebec (Table 3.1-2).

Table 3.1-2. Total Economic Impacts of Project Construction by Province and Territory

Province or Territory	Employment (Person-years)	GDP (Millions of Dollars)	Tax Revenue (Millions of Dollars)		
			Federal	Provincial/ Territorial	Total
Newfoundland and Labrador	561	$68.0	$7.6	$6.8	$14.4
Prince Edward Island	8	$0.5	$0.0	$0.1	$0.1
Nova Scotia	101	$11.0	$1.1	$1.1	$2.2
New Brunswick	57	$6.7	$0.6	$0.6	$1.3
Quebec	962	$86.8	$8.8	$10.7	$19.5
Ontario	1,633	$166.7	$18.6	$16.3	$34.9
Manitoba	129	$12.7	$1.1	$1.2	$2.3
Saskatchewan	165	$20.1	$1.8	$1.6	$3.4
Alberta	1,200	$142.2	$18.8	$10.6	$29.4
British Columbia	1,183	$125.8	$12.6	$8.5	$21.1
Yukon	5	$0.4	$0.0	$0.0	$0.1
NWT	210	$28.4	$3.4	$1.7	$5.1
Nunavut	473	$58.1	$6.5	$3.6	$10.1
Total Canada	**6,685**	**$727.4**	**$81.2**	**$62.7**	**$143.9**

The strength of the benefits to the other provinces can be attributed to two main factors: 1) construction workers will come from those provinces, and 2) businesses based in those provinces are expected to play a prominent role in providing goods and services directly to the Project. This can be seen in Table 3.1-3 in terms of the direct and indirect employment and GDP estimates. Businesses based in British Columbia, Alberta, and Ontario, in particular, are expected to be important suppliers to the Project.

Table 3.1-3. Total Employment and GDP Impacts of Project Construction by Province and Territory

Province or Territory	Employment (Person-years)				GDP (Millions of Dollars)			
	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total
Newfoundland and Labrador	455	5	101	561	$54.4	$0.5	$13.2	$68.0
Prince Edward Island	0	5	3	8	$0.0	$0.3	$0.2	$0.5
Nova Scotia	52	18	30	101	$6.6	$1.4	$3.1	$11.0
New Brunswick	25	14	18	57	$3.5	$1.3	$1.8	$6.7
Quebec	94	605	263	962	$11.7	$48.5	$26.6	$86.8
Ontario	167	1,007	459	1,633	$21.6	$92.7	$52.4	$166.7

(continued)

Table 3.1-3. Total Employment and GDP Impacts of Project Construction by Province and Territory (completed)

Province or Territory	Employment (Person-years)				GDP (Millions of Dollars)			
	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total
Manitoba	25	65	38	129	$3.5	$5.3	$3.9	$12.7
Saskatchewan	79	44	41	165	$10.6	$4.4	$5.1	$20.1
Alberta	438	543	218	1,200	$56.3	$50.9	$35.0	$142.2
British Columbia	451	410	322	1,183	$56.3	$31.8	$37.7	$125.8
Yukon	0	4	1	5	$0.0	$0.3	$0.2	$0.4
NWT	175	7	28	210	$22.6	$1.0	$4.9	$28.4
Nunavut	346	89	38	473	$43.0	$6.5	$8.6	$58.1
Total Canada	**2,307**	**2,817**	**1,561**	**6,685**	**$289.9**	**$244.9**	**$192.7**	**$727.4**

Tax revenue to the Government of Nunavut is estimated to be approximately $3.6 million, with an additional $6.5 million to the federal government due to Project-generated economic activity in Nunavut. In terms of provincial tax revenue, the Construction phase is predicted to contribute $16.3 million to the province of Ontario, while Alberta is estimated to receive $10.6 million, Quebec $10.7 million and British Columbia $8.5 million (Table 3.1-2). Federal tax revenues due to economic activity in those provinces add substantially more to the total tax contributions. These total tax revenues include direct, indirect and induced taxes (primarily consisting of personal income, business and sales taxes), but exclude business taxes and royalties paid directly by the Project, which will largely go to Nunavut.

As estimated, the majority of direct employment is expected to be in the province of Newfoundland and Labrador (455), British Columbia (451), Alberta (438), and Nunavut (346), with total person-years of direct employment of 2,307 person-years across provinces and territories. The majority of indirect employment is predicted to be in Ontario (1,007), followed by Quebec (605) and Alberta (543), with total person-years of indirect employment of 2,817 person-years across Canada. And finally, induced employment is expected to be mainly in Ontario (459) and British Columbia (322), followed by Quebec (263), with total person-years of induced employment during the Construction phase of 1,561 person-years (Table 3.1-3).

Direct GDP impacts are expected to be felt most in Alberta ($56.3 million), British Columbia ($56.3 million), Newfoundland and Labrador ($54.4 million) and Nunavut ($43.0 million), with total direct GDP benefits of $289.9 million across Canadian provinces and territories. Indirect GDP benefits are expected to be primarily in Ontario ($92.7 million), followed by Alberta ($50.9 million) and Quebec ($48.5 million), with total indirect GDP of $244.9 million in Canada. Finally, the majority of induced GDP impacts are predicted for the province of Ontario ($52.4 million) followed by British Columbia ($37.7 million) and Alberta ($35.0 million), with total induced GDP benefits of $192.7 million (Table 3.1-3).

The total personal income benefit for the construction of the Project is estimated at $526.6 million for Canada. Direct income impacts are expected to be highest in British Columbia ($56.0 million), Alberta ($55.8 million), and Newfoundland and Labrador ($54.4 million), and then Nunavut ($42.8 million), for a total of direct personal income impact of $287.1 million across Canada. Indirect income impacts are predicted for Ontario ($62.0 million), Alberta ($31.0 million) and Quebec ($30.5 million), for a total impact of $158.6 million. Finally, induced income impact is estimated at $80.9 million for Canada (Table 3.1-4).

Table 3.1-4. Total Personal Income Impacts of Project Construction by Province and Territory

Province or Territory	Personal Income (Millions of Dollars)			
	Direct	Indirect	Induced	Total
Newfoundland and Labrador	$54.4	$0.3	$4.7	$59.3
Prince Edward Island	$0.0	$0.2	$0.1	$0.3
Nova Scotia	$6.6	$0.8	$1.3	$8.7
New Brunswick	$3.5	$0.7	$0.7	$5.0
Quebec	$11.5	$30.5	$12.8	$54.8
Ontario	$19.9	$62.0	$25.1	$107.0
Manitoba	$3.5	$3.3	$1.7	$8.5
Saskatchewan	$10.6	$2.7	$1.9	$15.1
Alberta	$55.8	$31.0	$12.7	$99.5
British Columbia	$56.0	$21.6	$15.6	$93.2
Yukon	$0.0	$0.2	$0.1	$0.3
NWT	$22.5	$0.5	$1.7	$24.7
Nunavut	$42.8	$4.9	$2.6	$50.3
Total Canada	**$287.1**	**$158.6**	**$80.9**	**$526.6**

3.1.2 Nunavut

Annually, within Nunavut, total employment (direct, indirect, and induced) increases from approximately 66 in the first year of the Construction phase to 88 in the second year, 157 in the third year, and 153 in the fourth year, for a total employment impact of 473 person-years for Nunavut. GDP benefits resulting from the Construction phase are estimated at $5.7 million in 2019, $11.3 million in 2020, $18.2 million in 2021, and $21.5 million in 2022, totaling $58.1 million for the phase. As a result of the Construction phase, the total tax revenue to the federal government is $6.5 million, and the Government of Nunavut is predicted to receive $3.6 million, with the highest benefits taking place in the last year of the Construction phase (Table 3.1-5).

With respect to Nunavut, the employment impacts are expected to be most strongly felt in the Kitikmeot Region with 358 person-years of employment created during the Construction phase, followed by the Qikiqtaaluk and Kivalliq regions. Similarly, the Kitikmeot Region is expected to have the highest GDP benefits of $40.0 million, followed by Qikiqtaaluk and Kivalliq (Table 3.1-6). The Kitikmeot strongly benefits from the location of the Project in the region.

Table 3.1-5. Annual Economic Impacts of Project Construction for Nunavut

Year	Employment (Person-years)	GDP (Millions of Dollars)	Tax Revenue (Millions of Dollars)		
			Federal	Territorial	Total
2019	66	$5.7	$0.6	$0.3	$0.9
2020	88	$11.3	$1.2	$0.6	$1.8
2021	157	$18.2	$1.9	$1.0	$3.0
2022	153	$21.5	$2.6	$1.4	$4.0
2023	8	$1.3	$0.2	$0.1	$0.3
2024	1	$0.2	$0.0	$0.0	$0.1
Total	**473**	**$58.1**	**$6.5**	**$3.6**	**$10.1**

Table 3.1-6. Total Economic Impacts of Project Construction for Nunavut by Region

Region	Employment (Person-years)	GDP (Millions of Dollars)	Tax Revenue (Millions of Dollars)		
			Federal	Territorial	Total
Qikiqtaaluk	108	$17.1	$1.9	$1.3	$3.2
Kivalliq	7	$1.1	$0.1	$0.1	$0.2
Kitikmeot	358	$40.0	$4.5	$2.2	$6.7
Total Nunavut	**473**	**$58.1**	**$6.5**	**$3.6**	**$10.1**

The Kitikmeot Region is estimated to benefit from a total of 358 person-years of direct, 27 person-years of indirect and 19 person-years of induced employment, in total representing about 76% of all Nunavut employment impacts. The Qikiqtaaluk Region is also predicted to benefit by the Phase 2 Project, more so than the Kivalliq Region (Table 3.1-7). Direct personal income impacts and direct GDP impacts in the Kitikmeot Region are expected to represent approximately 90% of the direct impacts in Nunavut. Other direct impacts are expected for the Qikiqtaaluk Region, with indirect and induced impacts spread across all three regions of Nunavut (Table 3.1-7). The construction of the mine will benefit the residents of the Kitikmeot Region in the amount of $36.2 million in personal income (72.0% of the total personal income in Nunavut), and deliver GDP benefits of $40.0 million (68.8% of total GDP benefits in the Territory; Table 3.1-7).

Table 3.1-7. Total Employment, Personal Income, and GDP Impacts of Project Construction for Nunavut by Region

Region	Employment (Person-years)			
	Direct	Indirect	Induced	Total
Qikiqtaaluk	35	59	15	108
Kivalliq	0	2	5	7
Kitikmeot	312	27	19	358
Total Nunavut	**346**	**89**	**38**	**473**

(continued)

Table 3.1-7. Total Employment, Personal Income, and GDP Impacts of Project Construction for Nunavut by Region (completed)

Region	Personal Income (Millions of Dollars)			
	Direct	Indirect	Induced	Total
Qikiqtaaluk	$8.6	$3.3	$1.7	$13.6
Kivalliq	$0.0	$0.2	$0.3	$0.5
Kitikmeot	$34.3	$1.3	$0.6	$36.2
Total Nunavut	**$42.8**	**$4.9**	**$2.6**	**$50.3**
Region	**GDP (Millions of Dollars)**			
	Direct	**Indirect**	**Induced**	**Total**
Qikiqtaaluk	$8.6	$4.6	$3.9	$17.1
Kivalliq	$0.0	$0.4	$0.7	$1.1
Kitikmeot	$34.4	$1.6	$4.0	$40.0
Total Nunavut	**$43.0**	**$6.5**	**$8.6**	**$58.1**

3.2 OPERATION PHASE

3.2.1 Canada

During the Operation phase, it is expected that the total direct, indirect and induced employment for Canada as a whole will be 27,245 person-years. Employment increases sharply through the first and second years of operation, then increasing more gradually and peaking in 2032 at 2,800 person-years and then dissipating by year 2037 (Table 3.2-1). Total Canadian GDP impact of the Project's Operation phase is predicted at $3,073.7 million. GDP will peak at $314.4 million in year 2032; thereafter, Canadian GDP benefits will fall, again effectively dissipating by 2037 (Table 3.2-1). Total government tax revenue during Operation is estimated at $528.4 million, consisting of $286.4 million in federal and $242.1 million in provincial and territorial tax revenue (Table 3.2-1).

Table 3.2-1. Annual Economic Impacts of Project Operation for Canada

Year	Employment (Person-years)	GDP (Millions of Dollars)	Tax Revenue (Millions of Dollars)		
			Federal	Provincial/Territorial	Total
2023	1,779	$231.4	$11.5	$9.7	$21.2
2024	2,502	$279.6	$21.1	$17.8	$38.9
2025	2,617	$296.4	$25.4	$21.4	$46.8
2026	2,646	$298.9	$27.3	$23.0	$50.3
2027	2,662	$300.6	$27.8	$23.5	$51.3
2028	2,681	$302.0	$28.0	$23.6	$51.6
2029	2,710	$303.0	$28.2	$23.8	$52.0
2030	2,755	$306.3	$28.4	$24.0	$52.4
2031	2,747	$308.1	$28.6	$24.2	$52.7

(continued)

Table 3.2-1. Annual Economic Impacts of Project Operation for Canada (completed)

Year	Employment (Person-years)	GDP (Millions of Dollars)	Tax Revenue (Millions of Dollars)		
			Federal	Provincial/Territorial	Total
2032	2,800	$314.4	$34.6	$29.2	$63.8
2033	1,065	$105.1	$20.1	$17.0	$37.0
2034	217	$21.5	$4.2	$3.6	$7.8
2035	46	$4.6	$0.9	$0.8	$1.7
2036	16	$1.7	$0.4	$0.3	$0.7
2037	2	$0.2	$0.0	$0.0	$0.1
Total	**27,245**	**$3,073.7**	**$286.4**	**$242.1**	**$528.4**

The total economic impacts of the Operation phase by province or territory are shown in Table 3.2-2. Newfoundland and Labrador, British Columbia, Ontario, Alberta and Quebec, followed by Nunavut are expected to realize the majority of the benefits. The Project is expected to create 4,458 person-years of employment in Newfoundland and Labrador with GDP benefits of $651.5 million. In the province of British Columbia, the Project is expected to create 4,786 person-years of employment with GDP benefits of $515.3 million. The province of Ontario is expected to gain 4,833 person-years of employment and $532.3 million in GDP benefits. Further, Alberta is expected to benefit in 4,823 person-years of employment and $491.0 million in GDP. The operation of the Project will also benefit Nunavut as it will create an estimated 1,740 person-years of direct, indirect and induced employment and contribute as much as $229.8 million in GDP (Table 3.2-2).

Table 3.2-2. Total Economic Impacts of Project Operation by Province and Territory

Province or Territory	Employment (Person-years)	GDP (Millions of Dollars)	Tax Revenue (Millions of Dollars)		
			Federal	Provincial/ Territorial	Total
Newfoundland and Labrador	4,458	$651.5	$56.8	$53.6	$110.3
Prince Edward Island	30	$2.1	$0.1	$0.2	$0.3
Nova Scotia	549	$67.9	$5.8	$5.7	$11.5
New Brunswick	120	$10.7	$0.9	$0.9	$1.8
Quebec	4,759	$432.6	$42.5	$52.1	$94.6
Ontario	4,833	$532.3	$50.9	$44.0	$94.9
Manitoba	354	$29.5	$2.4	$2.6	$5.1
Saskatchewan	223	$24.2	$2.0	$1.8	$3.8
Alberta	4,823	$491.0	$53.8	$32.0	$85.8
British Columbia	4,786	$515.3	$44.6	$32.5	$77.1
Yukon	15	$1.4	$0.1	$0.1	$0.2
NWT	554	$85.4	$7.8	$4.3	$12.1
Nunavut	1,740	$229.8	$18.6	$12.2	$30.8
Total Canada	**27,246**	**$3,073.7**	**$286.4**	**$242.1**	**$528.4**

With the increase in economic activity specifically in Nunavut, Project operation will contribute $12.2 million in tax revenue to the Government of Nunavut and $18.6 million in tax revenue to the Government of Canada. The provincial/territorial tax revenue will be the highest in Newfoundland and Labrador ($53.6 million), Quebec ($52.1 million), and Ontario ($44.0 million; Table 3.2-2).

Direct employment impacts are predicted to be most felt in Newfoundland and Labrador (3,286) followed by British Columbia (1,302) and Nunavut (960), for a total of 8,162 person-years of direct employment impacts across Canada. Indirect employment benefits will be highest in Alberta (3,332), followed by Quebec (2,970), Ontario (2,185) and British Columbia (2,111); Nunavut will benefit with 610 person-years of indirect employment. The total indirect employment impact across Canada is estimated at 11,715 person-years. Induced employment impacts are predicted mostly for Ontario (1,851), British Columbia (1,374) and Quebec (1,363), followed by Newfoundland and Labrador (1,158). Total induced employment impact is estimated at 7,369 person-years (Table 3.2-3).

Correspondingly, direct GDP impacts will be most felt in Newfoundland and Labrador ($505.9 million), British Columbia ($200.8 million), and Nunavut ($148.0 million), followed by Ontario ($124.0 million) and Alberta ($102.1 million). Total direct GDP impact is estimated at $1,256.6 million. Indirect GDP impacts are most pronounced in Alberta ($258.7 million), Quebec ($228.0 million) and Ontario ($202.2 million), for a total of $934.7 million in indirect GDP benefits across Canada. Induced GPD impacts are expected to be most pronounced in Ontario at $206.1 million and British Columbia at $159.9 million, for a total of $882.5 million in induced GDP benefits across Canada (Table 3.2-3). Overall, the majority of Nunavut GDP benefits will be direct (64.4%), while a smaller share is indirect (19.8% of total) and induced (15.8% of total; Table 3.2-3).

Table 3.2-3. Total Employment and GDP Impacts of Project Operation by Province and Territory

	Employment (Person-years)				GDP (Millions of Dollars)			
Province or Territory	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total
Newfoundland and Labrador	3,286	14	1,158	4,458	$505.9	$1.3	$144.3	$651.5
Prince Edward Island	0	11	19	30	$0.0	$0.7	$1.4	$2.1
Nova Scotia	279	47	223	549	$42.8	$3.6	$21.6	$67.9
New Brunswick	11	39	70	120	$1.0	$3.7	$6.0	$10.7
Quebec	426	2,970	1,363	4,759	$66.6	$228.0	$137.9	$432.6
Ontario	798	2,185	1,851	4,833	$124.0	$202.2	$206.1	$532.3
Manitoba	11	222	121	354	$1.0	$16.9	$11.5	$29.5
Saskatchewan	24	120	80	223	$3.1	$12.1	$9.1	$24.2
Alberta	658	3,332	833	4,823	$102.1	$258.7	$130.2	$491.0
British Columbia	1,302	2,111	1,374	4,786	$200.8	$154.6	$159.9	$515.3
Yukon	0	10	5	15	$0.0	$0.8	$0.6	$1.4
NWT	407	45	103	554	$61.3	$6.6	$17.5	$85.4
Nunavut	960	610	170	1,740	$148.0	$45.4	$36.4	$229.8
Total Canada	**8,162**	**11,715**	**7,369**	**27,246**	**$1,256.6**	**$934.7**	**$882.5**	**$3,073.7**

Finally, total personal income benefit for the Operation phase is estimated at $2,236.7 million for Canada. Direct income impacts are expected to be highest for Newfoundland and Labrador ($505.9 million), followed by British Columbia ($199.4 million) and Nunavut ($147.1 million), with a total of direct personal income impact of $1,248.2 million across Canada. Indirect income impacts are predicted mainly for Alberta ($166.0 million), Quebec ($146.1 million) and Ontario ($130.8 million), for a total impact of $610.2 million in Canada. Finally, induced income impacts are estimated at $378.3 million for Canada, with strongest impacts in Ontario ($102.7 million), British Columbia ($66.5 million) and Quebec ($66.4 million; Table 3.2-4).

Table 3.2-4. Total Personal Income Impacts of Project Operation by Province and Territory

	Personal Income			
Province or Territory	Direct	Indirect	Induced	Total
Newfoundland and Labrador	$505.9	$0.8	$53.8	$560.4
Prince Edward Island	$0.0	$0.4	$0.7	$1.1
Nova Scotia	$42.8	$2.2	$9.1	$54.1
New Brunswick	$1.0	$2.1	$3.0	$6.1
Quebec	$65.4	$146.1	$66.4	$277.8
Ontario	$122.3	$130.8	$102.7	$355.8
Manitoba	$1.0	$10.4	$5.5	$16.9
Saskatchewan	$3.1	$7.1	$3.9	$14.0
Alberta	$99.4	$166.0	$48.9	$314.3
British Columbia	$199.4	$106.8	$66.5	$372.6
Yukon	$0.0	$0.5	$0.3	$0.8
NWT	$61.0	$3.4	$6.2	$70.5
Nunavut	$147.1	$33.6	$11.5	$192.1
Total Canada	**$1,248.2**	**$610.2**	**$378.3**	**$2,236.7**

3.2.2 Nunavut

For Nunavut, the total annual employment impact (direct, indirect and induced) for the Operation phase is estimated at 1,740 person-years. Employment benefits in the first year of the Operation phase (2023) will start at an estimated 127 person-years and remain at an average of 169 jobs per year throughout the Operation phase (2023 to 2032). Employment impacts will dissipate by 2035 (Table 3.2-5). Territorial GDP impacts follow a similar pattern with GDP benefits starting at $21.0 million in 2023 and remaining just above that level throughout the Operation phase. Project-related GPD benefits will cease by 2035. Federal and territorial tax revenues are approximately $1.9 million in the first year of Operation, increasing to an average of about $3.0 million for the remainder of the phase and then dissipating by 2035. For the Operation phase, total tax revenue due to economic activity in Nunavut is estimated to be $18.6 million to the federal government and $12.2 million to the territorial government (Table 3.2-5).

Table 3.2-5. Annual Economic Impacts of Project Operation for Nunavut

Year	Employment (Person-years)	GDP (Millions of Dollars)	Tax Revenue (Millions of Dollars)		
			Federal	Territorial	Total
2023	127	$21.0	$1.1	$0.7	$1.9
2024	170	$22.3	$1.6	$1.0	$2.6
2025	168	$22.8	$1.7	$1.1	$2.8
2026	168	$21.8	$1.7	$1.1	$2.8
2027	169	$21.9	$1.7	$1.1	$2.8
2028	171	$22.0	$1.7	$1.1	$2.8
2029	178	$22.4	$1.7	$1.1	$2.8
2030	181	$23.0	$1.8	$1.2	$2.9
2031	179	$23.5	$1.8	$1.2	$3.0
2032	174	$23.1	$2.2	$1.5	$3.7
2033	42	$4.7	$1.2	$0.8	$2.0
2034	9	$1.0	$0.3	$0.2	$0.4
2035	2	$0.2	$0.1	$0.0	$0.1
Total	**1,740**	**$229.8**	**$18.6**	**$12.2**	**$30.8**

Within Nunavut, total employment benefits are felt most in the Kitikmeot Region where 1,419 person-years or 82% of the total employment in the territory is created; this is followed by the Qikiqtaaluk at 238 person-years and the Kivalliq at 84 person-years (Table 3.2-6). Similarly, total GDP benefits are predicted to predominantly occur within the Kitikmeot Region and are estimated at $190.4 million, or 83% of the total GDP impacts in the territory. Tax revenues generated in the Kitikmeot Region are approximately $24.1 million or 78% of that for the whole territory (Table 3.2-6).

Table 3.2-6. Total Economic Impacts of Project Operation for Nunavut by Region

Region	Employment (Person-years)	GDP (Millions of Dollars)	Tax Revenue (Millions of Dollars)		
			Federal	Territorial	Total
Qikiqtaaluk	238	$26.5	$2.4	$1.8	$4.2
Kivalliq	84	$12.9	$1.3	$1.0	$2.4
Kitikmeot	1,419	$190.4	$14.8	$9.3	$24.1
Total Nunavut	**1,740**	**$229.8**	**$18.6**	**$12.2**	**$30.8**

For the Kitikmeot Region, of the 1,740 person-years of total employment (direct, indirect and induced) created over the Operation phase of the Project, 960 person-years is in direct, 610 in indirect and 170 in induced employment. That is, all direct and majority of indirect employment impacts are predicted for the Kitikmeot, with some indirect and induced employment impacts in the Qikiqtaaluk and the Kivalliq (Table 3.2-7).

Table 3.2-7. Total Employment, Personal Income, and GDP Impacts of Project Operation for Nunavut by Region

Region	Employment (Person-years)			
	Direct	Indirect	Induced	Total
Qikiqtaaluk	0	161	76	238
Kivalliq	0	36	48	84
Kitikmeot	960	413	46	1,419
Total Nunavut	**960**	**610**	**170**	**1,740**
Region	**Personal Income (Millions of Dollars)**			
	Direct	**Indirect**	**Induced**	**Total**
Qikiqtaaluk	$0.0	$10.4	$5.1	$15.5
Kivalliq	$0.0	$2.6	$3.5	$6.1
Kitikmeot	$147.1	$20.6	$2.9	$170.5
Total Nunavut	**$147.1**	**$33.6**	**$11.5**	**$192.1**
Region	**GDP (Millions of Dollars)**			
	Direct	**Indirect**	**Induced**	**Total**
Qikiqtaaluk	$0.0	$15.7	$10.8	$26.5
Kivalliq	$0.0	$5.6	$7.3	$12.9
Kitikmeot	$148.0	$24.1	$18.3	$190.4
Total Nunavut	**$148.0**	**$45.4**	**$36.4**	**$229.8**

Personal income effects (direct, indirect, and induced) are expected to be mainly in the Kitikmeot Region, estimated at $192.1 million in total for Nunavut and $170.5 million for the Kitikmeot. All direct income effects are predicted for the Kitikmeot at $147.1 million, with an indirect impact of $20.6 million for the region. Some impacts are predicted for the Qikiqtaaluk and the Kivalliq (Table 3.2-7).

Finally, direct contributions to GDP during the Operation phase ware predicted solely for the Kitikmeot Region ($148.0 million). Indirect and induced GDP benefits are shared amongst Nunavut's three regions, but with the Kitikmeot experiencing the largest benefits (Table 3.2-7).

4. SUMMARY

The summary of the total direct, indirect and induced employment, GDP and tax revenue impacts for the Construction and Operation phases of the Phase 2 Project is provided in Table 4-1. In general, over the Construction and Operation phases, the Project is expected to create 33,930 person-years of employment in Canada, contribute $3,801.1 million to the national GDP and $672.3 million to federal and provincial/territorial government revenue. In Nunavut, the Project is expected to create 2,213 person-years of employment, contribute $287.9 million to the territorial GDP and $40.9 million in federal and territorial government revenue. Of that, in the Kitikmeot Region, the Project is expected to create 1,837 person-years of employment, contribute $230.4 million to the regional GDP and create $30.8 million in government revenue.

Table 4-1. Summary of Project Impacts for Construction and Operation

	Construction			Operation		
Benefits:	**Canada**	**Nunavut**	**Kitikmeot**	**Canada**	**Nunavut**	**Kitikmeot**
Employment	6,685	473	358	27,245	1,740	1,419
GDP	$727.4	$58.1	$40.0	$3,073.7	$229.8	$190.4
Tax Revenue	$143.9	$10.1	$6.7	$528.4	$30.8	$24.1
Federal	$81.2	$6.5	$4.5	$286.4	$18.6	$14.8
Provincial/Territorial	$62.7	$3.6	$2.2	$242.1	$12.2	$9.3