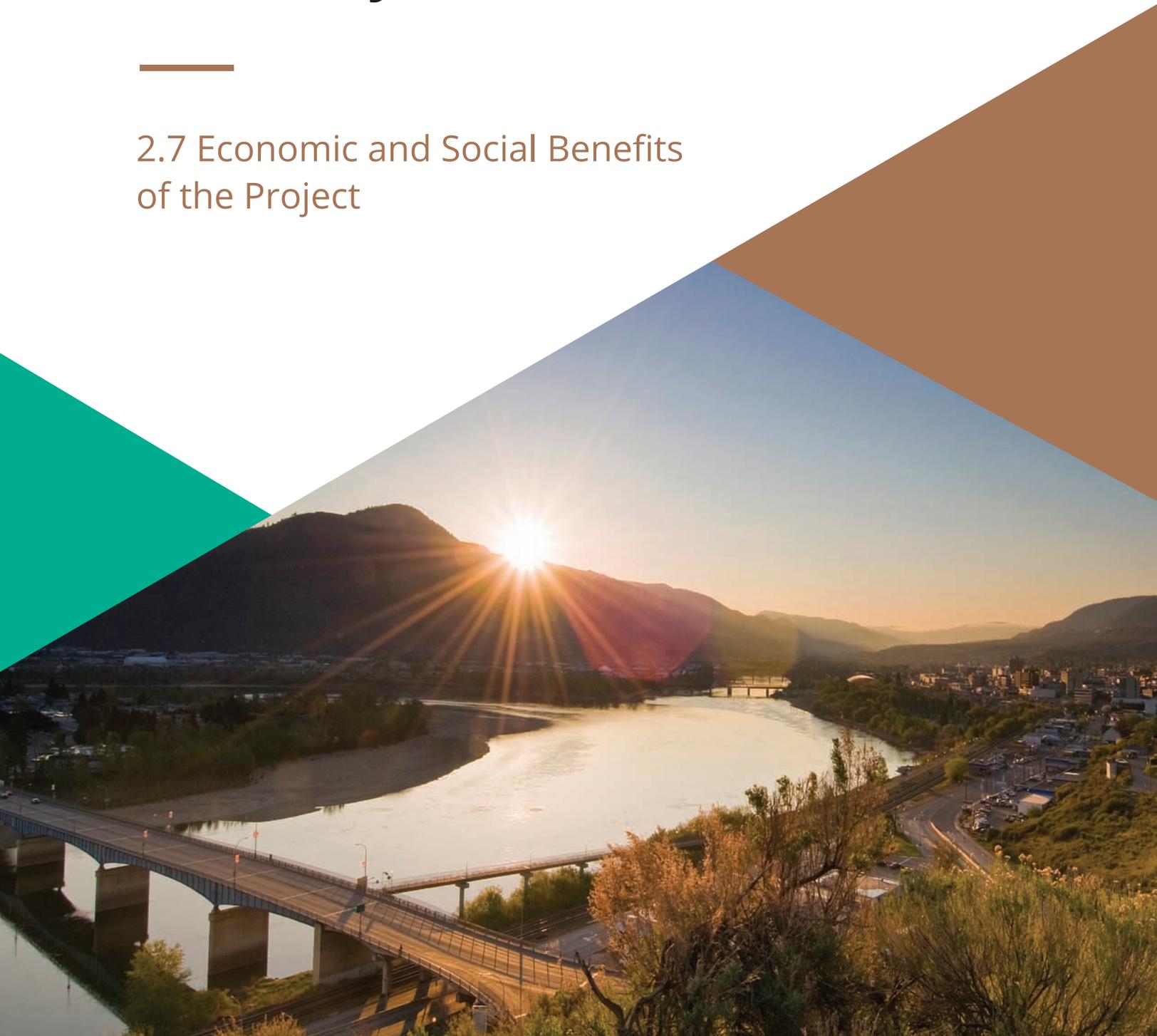




Plain Language Summary

2.7 Economic and Social Benefits of the Project



Overview

The following chapters of the KGHM Ajax Application/EIS have been summarized in plain language. The full Application/EIS can be viewed online at www.ajaxmine.ca.

2.7	Economic and Social Benefits of the Project	7.4	Business Effects Assessment
3.17	Closure and Reclamation	7.5	Property Values Assessment
4.1 - 4.5	Assessment Process	7.6	Economic Diversification Effects Assessment
4.6 & 4.7	Information Distribution and Consultation Public and Agency Information Distribution and Consultation	8.1	Infrastructure, Public Facilities, and Services Assessment
5.0	Environmental Assessment Methodology	8.2	Dark Sky Effects Assessment
6.1	Greenhouse Gas Effects Assessment	8.3	Visual Impact and Aesthetic Features Effects Assessment
6.2	Geology, Landforms, and Soils Assessment	8.4	Land and Resource Use Assessment
6.3	Surface Water Quality Effects Assessment	8.5	Current Use of Lands and Resources for Traditional Purposes Assessment
6.4	Surface Water Quantity Effects Assessment	8.6	Outdoor Recreation Effects Assessment
6.5	Groundwater Quality Effects Assessment	8.7	Jacko Lake Effects Assessment
6.6	Groundwater Quantity Effects Assessment	9.1	Archaeological Sites Assessment
6.7	Fish and Fish Habitat Effects Assessment	9.2	Assessment of Effects on Aboriginal and Non-Aboriginal Heritage Sites
6.8	Rare Plants Effects Assessment	10.1	Air Quality Effects Assessment
6.9	Rare and Sensitive Ecological Communities Effects Assessment	10.2	Domestic Water Quality Effects Assessment
6.10	Grasslands Effects Assessment	10.3	Country Foods Effects Assessment
6.11	Terrestrial Invertebrates Effects Assessment	10.4	Human Health Effects Assessment
6.12	Amphibians Effects Assessment	10.5	Noise and Vibration Effects Assessment
6.13	Reptiles Effects Assessment	10.6	Healthy Living and Health Education Effects Assessment
6.14	Migratory Birds Effects Assessment	10.7	Community Health and Well-Being Effects Assessment
6.15	Raptors Effects Assessment	12 - 16	Part C – Aboriginal Groups Information Requirements
6.16	Non-Migratory Game Birds Effects Assessment	17.4	Alternative Means of Carrying Out the Project
6.17	Mammals Effects Assessment	17.5	Effects of the Environment on the Project
7.1	Economic Growth Effects Assessment	17.6	Accidents and Malfunctions
7.2	Labour Force, Employment, and Training Effects Assessment		
7.3	Income Effects Assessment		

2.7 Economic and Social Benefits of the Project

1. Introduction

The detailed Project Overview chapter (Chapter 2 of the Application/EIS) provides a technical and detailed overview of the Project, including the **Economic and Social Benefits of the Project** (Section 2.7 of chapter 2 of the Application/EIS). This plain-language summary of the Application/EIS section is part of KGHM Ajax Mining Inc.'s (KAM's) efforts to describe the potential benefits of the Project to the public and contains information on possible economic impacts, employment and training, income, business opportunities, healthy living and community development. While there will be benefits at the national and provincial level, this section will focus mainly on discussing the benefits for the local City of Kamloops and the surrounding areas.

The Project is expected to make a positive contribution both economically and socially to Kamloops, the surrounding area, and the Province of British Columbia (BC). During the construction and operations phases, the Project is expected to create a significant number of jobs, additional business activity, income, and tax revenue around Kamloops and in the Thompson-Nicola Regional District (TNRD). Project construction, operations, and to a lesser extent, decommissioning and closure phases will require a large workforce of positions in trades, engineering and technical, management and administrative jobs. KAM expects to fill the majority of the predicted jobs locally as Kamloops has a long history of resource development and a trained workforce in the area.

The Project is also expected to help further diversify the local economy or provide a greater variety of job and business opportunities during the construction and operations phases. A diverse economy is important to help offset any possible future downturns in one particular industry.

► How Certain are These Estimates?

Given the 23-year life of the Project, and the many uncertainties in any economy, the estimates of Project benefits are general, and could change based on factors beyond KAM's control, such as changes in metals prices, new regulations, and competition for labour or business contracts with other (unforeseen) future projects. The estimates in this chapter were prepared for the environmental assessment process, and are a conservative estimate based on the information currently available. Actual levels of hiring and business contracting may vary.

2. Economic Impacts

Overall economic impact of the Project takes into account direct, indirect, and induced impacts.

- Direct impacts include all initial spending and hiring of employees of KAM as well as any direct employment in construction companies, manufacturers, or other service providers assisting on the Project.
- Indirect impacts are those created by a domino effect of spending. For instance, a local supplier of goods or services to the Project will experience an increase in demand for its product or service, which will in turn cause them to increase their spending on necessary goods or employees and create more profit and employment.
- Induced economic impacts are those created through additional employment, income, and spending in the community as more people are employed in the community, spending more disposable income, and supporting local businesses in the area, such as retail stores, service providers (e.g., hair stylists) or restaurants.

The total impacts of the Project are the sum of the direct, indirect, and induced impacts. Tax revenue created by the Project is also considered a significant Project benefit. There are four phases to the Project (construction, operations, decommissioning and closure, and post-closure), and the amount and type of economic benefit experienced will differ with each phase.

► Construction Phase

The construction phase is expected to last approximately two years¹. The total cost of the Project construction phase, including all the wages and benefits paid to mine staff, all spending on machinery, equipment, all payments to construction companies and other services providers as well as all spending on goods, services, utilities and taxes, is estimated to be \$1.5 billion. Approximately two-thirds of all the spending during this phase is expected to be within B.C. and the remaining third elsewhere in Canada and internationally.

Even though the Project is located in B.C., the extra demand for goods and services created by the Project elsewhere in Canada will lead to additional provincial and local taxes as suppliers and other affected businesses increase sales, hire more employees, and/or expand their facilities in other provinces. Local taxes generated during the construction phase are estimated at \$25 million while B.C. provincial tax revenue is estimated to be \$115 million.

► Operations Phase

The operations phase of the Project is estimated at 23 years and over that time total direct expenditures is expected to be \$6.9 billion or about \$299 million per year. The Project is expected to directly employ approximately 450 full-time workers during

¹ The Project Construction phase is defined as a two-year period for the purposes of the environmental assessment; however, the total period between the start of construction activities and plant commissioning is approximately three years (see Section 2.2.4). The Construction and Operations phases overlap. As the assessment of economic benefits is influenced by Project construction workforce and expenditures, a three-year construction phase is utilized for these topics.

operations. Total direct wages, including benefits, will be close to \$62 million per year and approximately \$1.41 billion over the life of the mine. Employment during the operations phase includes full-time, part-time, and seasonal positions, though the majority of the jobs are expected to be full-time. Total annual employment supported by the Project—including direct, indirect and induced employment—is estimated at 1,450 full-time positions in B.C. and an additional 540 full-time positions for the rest of Canada. Total tax revenue created by over the life of the mine at the local level is \$160 million and provincially \$710 million.

► Decommissioning and Closure Phase

Decommissioning and closure activities are expected to last five years and will include activities such as salvage and demolition, restoration, and environmental monitoring. The total cost of these activities during the decommissioning and closure phase is estimated to be \$195 million.

3. Labour Force and Employment

Project construction, operations, decommissioning, and closure and post-closure will require a large workforce made up of positions in trades, engineering and technical, management, and administrative occupations. Compared to the province, Kamloops and the surrounding area have a larger than average and growing pool of skilled trades who are qualified to work in the mining and oil and gas sector. This local pool of trained, skilled labour will help fill the potential Project workforce needs. Other mines in the area have indicated a majority of the employees hired for construction-related jobs were local hires. For instance, approximately 85 per cent of New Afton's construction workforce were local residents and the recent Highland Valley Copper mill expansion and modernization project added between 500 and 700 contractors to regular positions, most of which were drawn from the local and regional area.

As well, there will be some opportunities for forestry sector workers to transfer their skills into the mining sector. In some cases, skills may be directly transferable; other forestry workers with certification related to welding, millwright, and other designated trades may require some additional education to be eligible for Project jobs.

In the past, First Nations have participated in local mining-related employment opportunities and the St'k'emlupsemc Secwépemc Nation (SSN) have a formal agreement in place with New Gold on the New Afton project. The SSN continue to express an interest in contracting, employment, and training and KAM has worked on the development of an SSN Human Resources development plan which will provide SSN members with opportunities to be successfully involved in the Project. KAM is also developing a strategy to provide skills training to SSN members, adult and youth, and is committed to creating a database that will track each member's education, training strengths and areas for growth. This approach will allow members to focus their training opportunities which in turn will improve their ability to gain employment in or out of the mining industry.

KAM is currently creating a human resource development plan that will be in place before construction begins. Key aspects of the plan include:

- Description of labour needs for the Project from construction through to operations;
- Hiring strategy which includes a commitment to hire locally and partner with local training/education organizations to provide the skilled labour required for the Project;
- An Aboriginal liaison to help maximize the hiring of qualified Aboriginal candidates;
- Use of a variety of strategies to aid local hiring, including internet and social media, advertising, associations and institutions, job fairs, agencies and using an applicant tracking database;
- Partnerships with local universities and businesses to develop training programs and/or co-op programs, apprenticeship and on-the-job training programs. Federal and provincial training programs will be accessed when possible;
- New employee orientation which will include cross-cultural training to support a diverse and multicultural workforce; and
- Ongoing training and support of employees including financial assistance to obtain additional training or professional designations.

► Construction Phase

There will be a wide variety of jobs available during the construction phase. The types of positions that will be available have been organized into five different categories organized by the general skills and level of training required for each. Figure 2.7.1 provides an overview of sample Project occupations. Generally it is easier to fill the designated and non-designated trades positions locally, compared to the more specialized engineering and technical positions which may require hiring outside of the local area.

► What is the Difference Between a Designated and a Non-Designated Trades Position?

Designated Trades jobs typically require three or more years (levels) of classroom and practical training. Examples of designated trades jobs are millwrights, steelworkers, pipefitters, electricians, and crane operators.

Non-Designated Trades typically require a less onerous process for certification with respect to classroom and practical training, although they may require substantive work experience. Examples of non-designated trades jobs are heavy equipment operators, truck drivers, and warehouse personnel.

Job Category	Positions at Construction Peak
Designated Trades	Electrician, Welder, Mechanic, Steelworker, Scaffold Worker, Rebar Worker, Carpenter, Concrete Finisher, Millwright, etc.
Non-Designated Trades	Heavy Equipment Operator, Truck Driver, Labourer, Blaster, Warehouse Attendant, etc.
Engineering and Technical	Metallurgist, Assayer, Geologist, Mine Engineer, Environmental Technical, etc.
Management and Supervisory	Superintendent, Foreman, Supervisor, Trainer, Safety Supervisor, Manager
Administrative and Support	Clerk, Shipper and Receiver, Security, First Aid

Figure 2.7.1
Sample Project Occupations

Estimated Annual Direct Workforce (Project Construction)			
Job Category	Year 1	Year 2	Year 3
Designated Trades	498	1,340	630
Non-Designated Trades	565	316	163
Engineering and Technical	28	28	28
Management and Supervisory	66	98	59
Administrative and Support	18	18	18
Total	1,175	1,800	898

Figure 2.7.2
Direct Workforce Expected Throughout Construction Phase

Estimated Local Hires (Project Construction)			
Job Category	Year 1	Year 2	Year 3
Designated Trades	293 - 384	573 - 800	279 - 398
Non-Designated Trades	424 - 509	237 - 284	122 - 147
Engineering and Technical	9 - 12	9 - 12	9 - 12
Management and Supervisory	15 - 27	23 - 43	13 - 24
Administrative and Support	9 - 13	9 - 13	9 - 13
Total	750 - 944	850 - 1,152	433 - 593

Figure 2.7.3
Conservative Estimated Local Hires for Project Construction

Workforce requirements during the construction phase will vary over the three years. Figure 2.7.2 (previous page) provides information on the direct workforce expected to be required for each year of the construction phase.

Large numbers of millwrights, steelworkers, pipefitters, electricians, and scaffold installers will be required during the construction phase peaking at 1,340 jobs in Year 2. Non-designated trades such as heavy equipment operators, truck drivers, and labourers will be most in demand in Year 1, with that number peaking at 565 positions. Total construction employment in Year 1 is expected to be approximately 1,175 jobs, of which, between 750 and 954 are expected to be filled by local residents. An additional 350 jobs are expected to be created in companies providing various services and supplies to the Project (i.e., indirect employment). Between 105 and 130 local jobs will be supported by the additional spending occurring in the community as a result of the new jobs created during Project construction (i.e., induced employment). In Year 2 of construction, 1,800 jobs will be available and in Year 3, 898 jobs.

The majority of employment needed during the construction phase falls under the designated or non-designated trades categories, both of which can be filled more easily at the local level.

► Local Hire Estimates (Construction Phase)

For each year of construction, KAM has estimated the percentage of local hires. Figure 2.7.3 illustrates a breakdown of the local hire estimates for each year of construction.

During Year 1 of Construction, the overall local-hire percentage would be between 63 per cent and 80 per cent. In a best-case scenario, approximately 77 per cent of designated trades positions and up to 90 per cent of non-designated trades could be filled locally as well as 41 per cent of management and supervisory positions. KAM has made a conservative estimate of total hiring amounts from the local area; other projects such as construction of the New Afton Project were able to hire as much as 85 per cent from the local area.

In Year 2 of Construction, the Project will need a larger number of workers in the designated trades which are more difficult to fill locally which results in an overall local-hire percentage of between 47 per cent and 64 per cent of the total workforce.

In Year 3 of Construction, the Project will continue to need more skilled positions resulting in an overall local-hire percentage of between 48 per cent and 66 per cent of the total workforce.

► Operations Phase

During the operations phase of the Project, total employment opportunities could range between 400 and 500 positions in an average year. Figure 2.7.4 indicates the estimated number of positions by job category.

Approximately 250 non-designated trade positions are expected to be required on average during operations; this includes jobs such as haul truck operators and maintenance personnel. Over 100 designated trade positions will be needed in an average year for positions such as millwrights and pipefitters. Depending on the specific job, training is already available through Okanagan College, Thompson Rivers University (TRU), and other institutions.

► Local Hire Estimates (Operations Phase)

KAM estimates the mine will employ an average of 468 full-time people a year over the 23-year life of the mine with between 58 per cent and 74 per cent of the positions filled locally. Between 69 per cent and 83 per cent of the non-designated trades positions are expected to be filled locally. Of the people who work for KAM during the operations phase and who do not already live there, the majority is expected to move to Kamloops—with their families, if they have them—and join the community. Figure 2.7.5 illustrates a breakdown of the average yearly local hire estimates during the operations phase.

Local hire estimates may differ from the actual outcome for a number of reasons, including changes in the labour market (i.e., fewer available qualified local personnel than predicted), additional training programs that could increase the number of qualified local hires, and potential changes to the Project workforce needs as the Project progresses.

Estimated Annual Direct Workforce (Operations Phase)	
Job Category	Average Employment Positions
Designated Trades	105
Non-Designated Trades	249
Engineering and Technical	50
Management and Supervisory	32
Administrative and Support	32
Total	468

Figure 2.7.4
Estimated Annual Direct Workforce Requirements for Ajax Project (Operations Phase)

Estimated Local Hires (Operations Phase)	
Job Category	Local Hire Estimates
Designated Trades	45 - 67
Non-Designated Trades	171 - 207
Engineering and Technical	19 - 29
Management and Supervisory	9 - 15
Administrative and Support	26 - 28
Total	271 - 347

Figure 2.7.5
Conservative Estimated Local Hires for Project Operations

► Decommissioning and Closure

During the decommissioning and closure phase—which will last approximately five years—Project staff numbers at the mine will progressively decrease and the number of employment opportunities will be smaller than during the construction and operations phases. It is expected these positions would be filled by workers previously employed with the Project and living in the local area. Any jobs, such as environmental monitoring or site maintenance, available during post-closure would be limited and short-term. These opportunities would be expected to be filled by local residents.

4. Training

The majority of job opportunities expected to be available during construction are in the designated trades and include jobs such as carpenters, concrete finishers, steel workers, electricians, millwrights, pipefitters, rebar workers, and scaffold installers. These trades generally require several years of classroom training as well as practical job experience. Some of this training is available through local and regional institutions including Thompson Rivers University (TRU), Okanagan College, and College of the Rockies.

Large numbers of jobs are also expected to be available in the non-designated trades category which include heavy equipment operators, truck drivers, and labourers. These jobs typically require less intensive training but still require experience depending on the job. Training opportunities for non-designated trades jobs are also available at Okanagan College, Thompson Rivers University (TRU), and others.

5. Income and Business Opportunities

New income will be created through new jobs in Kamloops and nearby communities during all phases of the Project. This in turn will create the domino effect of additional indirect economic activity within the communities through increased spending in local retail stores, restaurants, and service providers.

The Project may depend on several contract services during construction and operations phases. These could include but are not limited to:

- Equipment maintenance;
- Site services such as security and maintenance;
- Transportation and fuel services;
- Expediting/mine resupply; and
- Communications.

Given the close proximity of the Project to Kamloops and the current experience and ability of local businesses to support the mining industry, it is expected that a high percentage of Project contracting needs would be met locally or regionally.

Transportation, fuel supply, catering, security, and some maintenance services could all possibly be provided by local businesses.

KAM expects that between 25 per cent and 35 per cent of spending on Project supplies and services will take place in the Kamloops area. With total annual average spending estimated at \$220 million that could amount to \$55 million to \$77 million spent in the Kamloops area. Sizeable business opportunities for local contractors will be available during the construction phase, although the local percentage will likely be lower as the purchases of major specialized equipment will have to be purchased outside of the local area.

Currently, KAM has signed contracts with Aboriginal and/or Aboriginal-affiliated companies to provide services to the Project such as environmental monitoring, site support services, test drilling, and civil works. Additional information regarding these interests is included in Section 12 of the Application/EIS. Further discussions between Aboriginal groups and KAM are expected in the future to further identify potential contracting opportunities.

► Construction Phase Incomes

Total employment, including direct and induced jobs (see Section 3.1), over the entire Project construction phase, is expected to generate local employment income in the range of \$264 million to \$328 million. It is expected that 96 per cent of construction employment on the Project will be in engineering construction and four per cent in building construction. Average Canadian incomes in 2010 for those employed in engineering construction were \$83,600 and \$56,900 for those employed in building construction.

► Operation Phase Incomes

In the Operations phase, average yearly Project employment is estimated at 468 jobs, with 271 to 347 of these jobs being filled locally. Total employment in the Kamloops area is expected to be 933 full-time jobs; this also includes 185 indirect jobs (supplying goods/services directly to the mine) and 295 induced jobs (jobs created/supported by the domino effect of spending in the community).

Yearly total wages paid to the employees directly employed by the Project are expected to be \$53 million per year. This is an average of \$117,000 per full-time job per year. Average income for indirect and induced workers is predicted to be \$56,000; the average wage in Kamloops as of the last Statistics Canada census was \$39,286.

► Decommissioning and Closure Phase Incomes

During the decommissioning and closure and post-closure phases, jobs will be reduced compared to the construction and operations phases. The jobs available are generally expected to be filled by local residents and the wages for workers employed during this phase are expected to be similar to the wages during the

Operations phase, or an average of \$117,000 per full-time position. This will vary depending on the type of job category.

6. Healthy Living

Safety will be a priority on-site during all Project phases, with a goal of Zero Harm. KAM encourages and supports a safe and healthy work environment by investing in its employees and putting appropriate safety systems and programs in place. This includes a commitment to continual health and safety improvements by setting goals and monitoring performance. All relevant provincial and federal health and safety guidelines will be continuously met or exceeded.

KAM will also support and sponsor local community organizations that encourage and support healthy living and health education as well as support recreational activities in areas around the Project where it is safe to do so.

7. Community Development

KAM will be involved in activities and events that support the growth of the community and/or environmental sustainability by supporting local events, clubs, businesses, community groups, athletics and arts activities, as well as a variety of non-profit groups. KAM may provide support through donations, sponsorships or partnering with other businesses or organizations.

KAM is committed to working with local residents to ensure that, where it is safe to do so, community members will continue to be able to use the recreational area around the Project. An access management plan will be developed with local residents affected by Project activities to support continued use of the area around the Project. The primary goal of the access management plan will be public safety, but it will also identify ways to allow continued access to certain areas around the Project such as Jacko Lake. The access management plan will also identify ways to ensure clear and timely communication with potential users of the area about Project activities.

KAM will also continue to consult and work with local First Nations regarding the Project and its design and is committed to building a strong and lasting relationship with First Nations communities.

Access the Summaries

Key sections of the KGHM Ajax Environmental Assessment have been summarized and made available to the public:

► **View the Summaries Online**

ajaxmine.ca

► **Request a Copy**

Request copies of individual chapters:

ajax.project@kghm.com

250-374-5446

► **View a Copy**

The following locations have a copy of each Plain Language Summary available to read during their business hours:

**KGHM Ajax
Head Office**

124 Seymour Street
Kamloops, BC

TNRD Library

Downtown Kamloops

100-465 Victoria Street
Kamloops, BC

**City of Kamloops
City Hall**

7 Victoria Street West
Kamloops, BC

TNRD Library

North Kamloops

693 Tranquille Road
Kamloops, BC