MEMORANDUM

To:	Randy Sunderman, Gary Robinson, Randy Lessard, Robin Reid, Peter Larose and Kimberly Goodall	**Date:**	March 31, 2017
From:	KGHM Ajax Mining Inc.		
CC:	B.C. Environmental Assessment Office, Canadian Environmental Assessment Agency		
Subject:	Response to Ajax Project Application/EIS Public Comment Period Submissions		

1. INTRODUCTION

As part of the environmental assessment review process for the Ajax Project (the Project), the BC Environmental Assessment Office and the Canadian Environmental Assessment Agency held a 75-day public comment period from January 26 to April 11, 2016. The following submission was received:

- Report entitled "Review of the Ajax Mine Proposal – Selected Socio-Economic Value-Components" dated April 11, 2016.

KGHM Ajax Mining (KAM) appreciates the level of effort you have put into reviewing the Project, and is pleased to provide the following response, which outlines KAM's understanding of your concerns and summarizes how KAM is addressing these topics.

2. KEY ISSUES

Consistent with the direction provided by the EAO, KAM has taken the time to review all of the 3,845 public submissions received, has analyzed and identified 177 issues (see attached Document Map), and then developed responses to these issues. These responses are provided in the comprehensive Public Response Report (refer to Section 5 Useful Links below), and will be publically available for review. KAM would like to take this opportunity to directly respond to your submission in a manner that is consistent with commitments made in the Community Consultation Plan (Appendix 4.7-A of the Application/EIS) and guidance provided by the EAO. Through our consultation efforts, KAM intends to build long-lasting and productive relationships with Kamloops residents and key stakeholders to ultimately reach mutually beneficial levels of understanding of everyone's needs and aspirations.

Specific to your submission, we have provided responses to concerns about the following issues:

- structure of the assessment chapters / organizational suggestions;
- baseline studies;
- use of the input-output model results;
- population projections;
- local tax revenues;
- effects on tourism industry;
- economic and employment benefits;
- mitigation via adaptive management; and
- Other miscellaneous points.

The following responses aim to address the specific questions, comments, and concerns identified in your submission. Please note that we have not endeavoured to fully revise and restructure the economic and social assessments (and associated studies), although we appreciate these comments and the effort invested in these suggestions. Please be assured that your full comments, in the form of the original report submitted by Sunderman *et al*, is part of the public record and available to the EAO, CEA Agency, and other decision-makers for their reference during the review of the Application/EIS.

3. RESPONSE

The concerns you raised were similar to those raised by other groups as well, and we have prepared a Public Response Report that speak to these issues. Specifically Section 5 – Economic Pillar of the Public Response Report addresses concerns related to effects on property values, critique of the economic VC assessments and other economic related concerns. In addition, Section 6 – Social Pillar of the Public Response Report addresses concerns such as effects of the Project on nearby neighborhoods including noise and vibration. However, your review of the social and economic components of the Application/EIS was more in depth and went beyond the level that we responded to for the general public, and we want to take time to make sure you have access to all of the relevant information. References to additional responses provided as part of the public comment period and/or working group review are also included where applicable.

3.1 Structure and Organization of the Application/EIS

The Application/EIS largely follows the structure established by the Application Information Requirements/Environmental Impact Statement guidelines (AIR/EISg) which was approved by the BC Environmental Assessment Office and Canadian Environmental Assessment Agency to guide the completion of the assessment. This structure is organized based on the six economic VCs (in Chapter 7), six social VCs (in Chapter 8), as well as related health VCs (in Chapter 9) to which your comments are related. Due to the VC-based structure, there are some instances where information is presented in one section and referred to in another section. This is the case for the population projections, which are described in Section 8.1 using the workforce projections discussed in

Chapter 7. Acknowledging that different approaches may have been made by different authors, KAM has nonetheless attempted to make the various interlinkages and interdependencies of the assessment clear.

3.2 Baseline Studies

Comments expressed concern that the socio-economic baseline report does not provide comprehensive detail about daycare, elementary/secondary schools, post-secondary institutions, transportation services, and other topics. In this regard, it is important to note that the socio-economic baseline was not intended to provide a detailed examination of every aspect of the community. Instead, the baseline is focused on the topics most relevant to the assessment, i.e. related to the reasonably expected potential effects of the Project such as labour force, employment, education, income, business, property values, infrastructure, land and resource use, health indicators, etc. Thus, the other topics identified above are not examined in great detail in the socio-economic baseline report. Nevertheless, effects related to substantive in-migration and population growth—such as demand for childcare and elementary/secondary education—are not expected as in-migration is expected to be relatively modest and comparable to existing annual variation. Population projections are discussed further below.

Likewise, the Project is not expected to affect usage of local highways, airports, or railways after mitigation measures are applied, and therefore these topics are not explored in detail in the baseline report. Please see Appendix 8.1-A Traffic Impact Assessment for details on how the Project is predicted to impact traffic and mitigation measures KAM has committed to. In addition daycare centres, elementary/secondary schools and post-secondary institutions were considered by other Valued Component assessments including Air Quality, Noise and Vibration, and Health.

Comments also requested further information about key person interviews (KPIs) undertaken as part of the socio-economic baseline studies. Section 7.1.2.3 of the Application/EIS describes the KPI program conducted in 2011-2012 and 2014-2015. These interviews included individuals who are involved in various industry sectors (e.g., forestry, mining, tourism) at different levels (e.g., direct involvement in the private sector, government officials). Section 1.3.2 of Appendix 7.1-A describes the research approach to the socio-economic baseline data collection process, including the KPI program and personal communications completed between June 2011 and November 2012, with additional and follow-up interviews occurring in 2014 and 2015. As of November 2012, a total of 35 interviews had been conducted with municipal officials, industry representatives (mining, forestry, real-estate and agriculture), and representatives from educational institutions, government departments, recreation enthusiasts, land users, and ranchers. In 2014 and 2015, an additional 13 interviews were completed. In some cases, other informal conversations contributed to the research helping to identify relevant documents and potential interviewees. In addition to the KPI Program, InterGroup, KAM's socio-economic consultant, also organized and facilitated two meetings on special topics and workshops with the City of Kamloops and TNRD.

For further information related to the baseline studies including KPIs, please refer to the following supplemental memos:

- 0411_KAM_KPI
- 0707_KAM_Socio-Ec

3.3 Use of Input-Output Model Results

The commenter expressed concern that the Input-Output model results should not be used in the assessment of economic growth effects as these indicators do not necessarily correspond with economic growth. While it is true that the Input-Output model does not account for economic growth constraints (such as the availability of labour and capital for business investment), this does not mean that the model results fail to indicate the Project's contributions to economic growth. Unless the labour market is already tightly constrained—with minimal unemployment and high levels of participation—growth can and will occur in response to the economic stimulus of the Project.

At the time of the last census (2011), the Kamloops labour force had a participation rate of 66.4%, and an unemployment rate of 8.4%, while rates for the TNRD were 63.4% and 9.6% respectively. More recent estimates are available for the Thompson-Okanagan economic region show unemployment rates gradually declining from 7.8% in 2011, to 6.4% in 2015, while participation rates (projections from 2013) were expected to be 63.9% in 2015, increasing to 64.5% by 2017. From our perspective, these numbers indicate that the local or regional economy has room for growth generated by the Project.

The Application/EIS acknowledges that there is some uncertainty regarding the number of jobs that will realistically be filled by existing Kamloops residents. Thus, the Application/EIS (Section 2.7, Section 7.2, and elsewhere) provides both "low" and "high" local hire scenarios. These scenarios were developed with consideration of the size and composition of the Kamloops labour force, including unemployment levels, skills, and industry experience. KAM will also implement measures to enhance local employment and procurement levels through a human resource development plan that will include recruitment strategies and training programs designed to increase the accessibility of local jobs and business opportunities to local residents. The commenter also notes that barriers to employment should be considered, and this will also be addressed in the human resources development plan; in particular, efforts will be made to recruit and retain Aboriginal candidates by working with First Nations to identify and overcome potential barriers to employment.

Capacity for capital investment is another potential constraint to economic growth, as a lack of available capital can impede the ability of local suppliers and businesses to respond to the stimulus generated by the Project. KAM is confident that local businesses have the resources to respond to Project related economic stimulus. Furthermore important investment climate factors exist (e.g. low interest rates, favourable tax incentives, etc.) to secure the necessary capital to develop the Project including all related construction expenditures. It is reasonable to assume that these investment climate factors benefit other businesses in Kamloops and therefore they will be able to respond in turn to the increased demand, and associated economic opportunities, generated by the Project.

Further information related to the Input/Output model and the use of model results; refer to the following supplementary memos submitted:

- 0318_KAM_Job Creation
- 0411_KAM_Employment Multiplier
- 0415_KAM_Economic Benefits

3.4 Employment Benefits

Comments claim that local hiring is not a benefit unless those employed would be unemployed in the absence of the Project. KAM, and our consulting economists, respectfully disagree with this interpretation of the data. Individuals are free to make their own choices in regard to the employment that they seek, and some people currently employed in other positions may indeed leave those positions to take up employment with the Project. This is a free decision, and these individuals would undoubtedly see a benefit to the change in job (e.g. a financial, geographic, scheduling, or some other form of benefit). If an existing position is vacated, this position would then be open to another individual. Overall, although there may be changes, there will still be a net positive benefit throughout these changes (i.e. a net increase of jobs available in the community).

The commenter also expressed concern that potential adverse effects of hiring during construction and operations are not investigated (including labour shortage, wage inflation, etc.), and that the potential effects for closure are overstated (as the loss of jobs at the end of operations is perceived to be "a return to baseline conditions" and "no effect"). In fact, the potential effects of hiring on labour shortages and other factors are considered in the Application/EIS in relation to the relevant VCs:

- Labour competition and wage inflation pressures for local businesses are assessed for the Business VC (Section 7.4 of the Application/EIS), where a potential residual effect is identified for "competition for labour could lead to increased costs associated with staff turnover and wage increases for local and regional businesses".
- A similar effect is assessed for the Infrastructure, Public Facilities, and Services VC (Section 8.1 of the Application/EIS) in regard to the availability of skilled labour to maintain/develop public infrastructure and services, and a potential residual effect is identified for "competition for labour may reduce availability of skilled workers and affect municipal works".

In regard to labour force effects at the end of mine operations, the commenter is correct that this is more accurately perceived as the end of the employment benefit generated through the operations phase, rather than a direct adverse impact. However, this cannot be characterized as a "return to baseline conditions" as the baseline will be much different at this time—more than 20 years in the future—and the Project itself will be part of the new baseline. Although closure of the mine does not negate the employment (and other) benefits generated over the life of the project to date, it will be a substantial change for the approximately 450 people employed at the mine as it nears closure. The impact assessment acknowledges that these changes could have adverse implications for workers associated with the Project, and identifies measures through which these effects can be best

managed. Further detail of closure plans, including workforce transition programs, will be developed in the years leading up to mine closure.

4. POPULATION PROJECTIONS

The commenters claim that the in-migration estimates included in Section 8.1 (and referenced elsewhere) are inadequate, and that a more fulsome population analysis, including detailed projections, should be included in the Application/EIS. The comments also compare the level of detail to that provided for the Site C Clean Energy Project EIS. We note that "Population and Demographics" was a standalone VC for the Site C project and that population and demographic projections were specified in the EIS Guidelines for that project; thus, a greater focus on population and demographic effects is expected for Site C.

For the Ajax Project, population is not included as a VC in the Application/EIS or in the AIR/EIS Guidelines. This is largely because population growth, in and of itself, is not considered either a positive or negative occurrence. Population growth or decline is only relevant in terms of how it affects other aspects of a community, including availability of housing, demand for services, etc. Thus, the assessment focuses on the VCs that would be affected, based on the Project-related population estimates provided in Section 8.1.

As noted by the commenter, the operations phase of the Project could result in a high-end estimate (under the "low" local hire scenario) of 1,111 total new in-migrants to the community, including not just direct workers, but also people filling indirect and induced jobs supported by the Project, and their family members. On the lower side of the projection (under the "high" local hire scenario) the total number of in-migrants is estimated to be 447.

These numbers are not alarming in the context of the Kamloops community and its population changes in recent years. With an estimated municipal population[1] of 89,995 in 2015, an increase of 1,111 people would represent 1.2% growth, while 447 people would equate to less than 0.5% growth. Annual growth rates since 2011 have ranged from a decline of 0.2% between 2011 and 2012, to 1.3% growth between 2013 and 2014. Additionally, 2011 census data[2] shows that more than 4,000 people moved to the community between 2010 and 2011; while more than 15,000 people moved to the community over the 5 years prior[3]. These statistics indicate that potential population growth as a result of the Ajax Project is within the range experienced in recent years.

Potential pressures on local services (e.g. healthcare, policing) and infrastructure (e.g. housing) as a result of population changes are noted and are assessed in the Application/EIS, and KAM remains committed to working with the City of Kamloops, service providers and other stakeholders to

[1] BC Development Region, Regional District, and Municipal Population Estimates 2011-2015. Demographic Analysis Section, BC Stats. December 2015.

[2] National Household Survey (NHS) Profile for Kamloops (City). 2011 National Household Survey. Statistics Canada. September 2013.

[3] Note that these mobility statistics do not indicate overall population growth, but rather the number of people in Kamloops at the time of the census who had moved to the community during the period in question.

manage these changes. KAM is currently in discussions with the City of Kamloops to provide guidance or support around the long-term management of many social issues pertaining to the development of the Ajax Project. KAM is also committed to the creation of a Community Liaison Group (CLG), a body of company and community members that will oversee important aspects of the proposed project in relation to social issues and concerns. More information about the CLG is provided in the public response report (Response 3.3.4: Community Liaison Group). Further details are being prepared through consultation with the City of Kamloops.

Furthermore, KAM wishes to support a positive community image and high quality of life for all residents, and will look to the City for guidance on how the company can most effectively participate in, and support, the municipal planning process.

In response to a request from the City of Kamloops, KAM has re-evaluated the in-migration estimates for construction and operation phases using updated population projections; the difference in the population projections is around 2 per cent, and any resulting change in expected in-migration is negligible.

4.1 Local Tax Revenues

Comments in your letter include: *"…under total government revenues did the local/regional government revenue analysis include loss in tax base as well as increase in local expenditure for services and infrastructure to service increased activity? The consultant should also point out that local government revenue does not refer to the Kamloops area but all of British Columbia"*.

The value of local tax revenues for the City of Kamloops was not calculated as the available data does not provide this level of detail. Estimated government revenues (total, for provincial, federal, and local government) were calculated by the Statistics Canada Input Output Model. The Application (Appendix 7.1-B) notes that local taxes are aggregated for all municipalities, and not provided for the City of Kamloops: "Note that local tax estimates were estimated for al municipalities in BC or Canada, not just Kamloops" (page 6 of Appendix 7.1-B).

Local governments in BC are anticipated to receive $160 million in tax revenue over 23 years (or an average of $6.9 million annually) based on the assumptions stated in the Application/EIS. Due to the nature of the calculations, the local tax estimates represent tax revenues for all municipalities in BC or Canada, not just Kamloops; however, KAM expects that much of this tax revenue would be realized locally in Kamloops and the TNRD due to the location of the Project. Of note, even though the Project is located in BC, the additional demand created for goods and services elsewhere in Canada is predicted to lead to additional provincial and local taxes as companies increase sales, expand their capacity and hire more workers in those other provinces.

Although there is uncertainty about tax revenue that might be accrued in the Kamloops area, KAM recognizes concerns of the City in regard to potential costs of Project impacts on municipal infrastructure and services. The company is committed to working with the City to manage these impacts and concerns. As mentioned above, KAM is currently in discussions with the City of

Kamloops to provide guidance or support around the long-term management of many social issues pertaining to the development of the Ajax Project.

The Public Response Report also provides discussion of local tax contributions in Response Section 5.4.1 (Tax contributions of the Project).

4.2 Effects on Tourism

Comments raised concerns about potential effects on the local tourism industry. KAM has considered the potential effects on tourism, including a number of different effects pathways, as described below.

KAM notes there may be short-term pressures on summer housing and accommodation (including hotels/motels) during construction, which will be mitigated by a number of measures including implementation of a Project Recruitment Strategy to maximize local hires and reduce the number of non-local workers, and the possible construction of workforce accommodations.

Accommodation pressures will be most notable for a limited period during the peak summer months when Kamloops hotels have the highest levels of occupancy. However, regardless of the timing, KAM will work with the City, local businesses, and local service providers to identify the best option for worker accommodation, and the associated concerns and management measures for the selected option. This may or may not include use of local hotels and other existing accommodation. A key mitigation measure for construction phase housing demand is a Construction Workforce Accommodation Plan that may include development of housing to offset demand during construction. Details of the Plan will be developed through engagement with the City, local accommodation providers, and health/social service providers.

KAM appreciates that some stakeholders are frustrated by the lack of concrete plans for construction accommodation. However, the issue of construction workforce accommodation requires the involvement of the Engineering, Procurement and Construction (EPC) contractor (who has not yet been determined) and a confirmed timeline for construction (so that contractual arrangements for accommodation can be put in place). KAM is committed to choosing the best accommodation option(s) that minimize impacts on the community, and to do this we need all the responsible parties at the table. Our commitment to working with the City, local accommodation providers, and social service groups will allow for a more fulsome plan to be developed in advance of construction, when the responsible parties are known and there are further confirmed details about the construction contractor, workforce (size, origin, schedule, etc.), current challenges in the community, and options for accommodation.

The physical presence of the Project is not expected to affect the tourism industry. The mine site is not visible from the city (or only distantly visible from select locations) and the mine site is not in an area frequented by tourists, most of whom arrive in Kamloops by road (Highway 1 / Coquihalla), rail, or airport, none of which have a view of the Project. Likewise, the area around the mine site is rural and largely private property and is not an area frequented by tourists as a destination. The area is used for fishing at Jacko Lake, which may attract some fishermen from out of town; however, KAM expects this represents a small number of people in the context of tourism (including fishing

tourism) in the Kamloops area due to the many other rivers and lakes available for fishing. Based on the findings of the Application/EIS, air quality, noise, and other environmental aspects will not noticeably change and do not have the potential to affect tourism in the area, including sports tourism at indoor and outdoor facilities throughout the city.

Finally, in regard to potential effects on the tourism 'brand' of Kamloops, please refer to Response 6.1.2 (Tournament Capital Brand) in the Public Comment Response Report.

4.3 Mitigation Measures

Comments highlight the fact that many mitigation measures are dependent on dialogue, engagement, and adaptive management strategies. A collaborative, adaptive approach to community related mitigation measures is typical for socio-economic effects which differ from mitigation measures for biophysical effects which are less collaborative because there are established regulations, guidelines, and criteria. In lieu of established measures and criteria, KAM maintains that dialogue, engagement, and adaptive management strategies are the best approaches for mitigation of socio-economic effects. While KAM will make all reasonable efforts to minimize potential adverse effects and enhance Project-related benefits, there are many factors beyond the control of proponent (including the state of the broader economy, the progress of other developments including Trans Mountain pipeline expansion project, and changing pressures on local health and social services). Thus, KAM looks to the community's leadership and service providers to aid in the early identification of concerns and impacts, and the collaborative and proactive development of solutions.

To support this process, KAM intends to establish a Community Liaison Group (CLG) and other advisory/working groups as needed, as well as an adaptive management process. More information about the CLG is provided in the public response report (Response 3.3.4: Community Liaison Group). Further details are being prepared through consultation with the City of Kamloops.

A key mitigation measure for construction phase housing demand is the Construction Workforce Accommodation Plan, which will also be developed through engagement with the City, local accommodation providers, and health/social service providers. The need for construction workforce accommodation is a key concern, and requires the involvement of the EPC contractor (not yet established). As discussed with regards to effects of the Project on tourism, KAM is committed to choosing the best accommodation option(s) that minimize impacts on the community. However selection of the best options requires all the responsible parties as part of the discussion. KAM's commitment to working with the City and other stakeholders is the strongest commitment available at this time prior to Project approval (if approved), and allows for a more appropriate plan to be developed in advance of construction, when the responsible parties are known and there is further confirmed details about the construction contractor, workforce (size, origin, schedule, etc.), current challenges in the community, and options for accommodation.

4.4 Other

The following items address some additional comments raised in the report:

- **Interactions matrix**: The report states that there needs to be an explanation of the determinants used when ranking potential adverse interactions. Explanation of determinants used to rank Project-VC interactions is provided in the "Notes" at the end of each interactions matrix table (e.g. Table 7.1-5, and comparable tables in other sections). These definitions are discussed in more detail in Chapter 5 (Effects Assessment Methodology) of the Application/EIS, which explains the criteria for each interaction level and describes how this screening-level assessment is used to focus the EA on the interactions of greatest interest and/or concern.
- **Park-and-Ride**: Comment 19 on page 23 of the report notes the need to identify potential locations for park-and-ride and other transportation to/from the site in advance so that potential effects on adjacent businesses and land users can be identified and addressed. As noted in the traffic impact assessment report, KAM has identified three potential Park & Ride locations: at 485 Mt Paul Centre Way (Tk'emlups te Secwepemc land), at the southwest corner of Highway 5 and Shuswap Road intersection (Tk'emlups te Secwepemc land), and at the northeast corner of the upgraded Inks Lake Interchange (on KAM's property). The selected location and other details will be determined by the access permit required for the Project under the *Transportation Act*.
- **Urban recreation**: The report states that the outdoor recreational assessment needs to incorporate urban recreational activities such as soccer, softball, jogging, etc. potentially affected by the Project. Based on the conclusions of the Application/EIS for various valued components that contribute to the means or enjoyment of urban recreational activities, potential effects on urban recreation are not expected. The mine is not located in the city, and the environmental effects of the mine (e.g. air quality, noise, water, quality, visual quality) are negligible to minor and are not reasonably expected to impede or reduce enjoyment of indoor or outdoor recreation in the city. The Project's effects on outdoor recreation are strongly tied to the mine site and its immediate vicinity, much of which is pre-existing private land. In regard to the potential use of local recreation facilities by the construction workforce, KAM will work with the construction contractors and local service providers to identify opportunities for workers to recreate in all seasons. If concerns or challenges regarding recreation resources (e.g. demand for services or facilities accessed by the community), these will be addressed in consultation with the appropriate service providers.
- **Pets and noise**: The report raises concerns related to effects of noise and vibration on pets, and in particular dogs which can be sensitive to loud noise and vibration. Although potential effects on pets, including dogs, were not examined directly, the potential effects of Project-related noise on wildlife (much closer to the Project than any residence) were evaluated in the wildlife effects assessment (Section 6.17 "Mammals"). Sensory disturbance was assessed for wildlife which included effects of Project noise and vibration. These potential effects were found to be not significant after the application of mitigation measures largely because Project noise will decrease as the Project progresses from construction to operation, blasting will occur during the day and will be limited to approximately once per day.

- Noise phobia in dogs can be caused by many sounds and various sound levels and can result in behavioural changes in pets such as hiding, urinating, defecating, chewing, escape, vocalizing and other adverse/non-desirable behaviours. However, pets such as dogs and cats have different sensory stress thresholds and their responses to noise will vary from breed to breed and amongst individuals. Therefore, it is not possible to predict potential effects on all pets that will be within the range of perceptible noise from the Project with accuracy. A study on chronic and acute stress in dogs from various stressors including noise found no clear relationship between increasing noise intensities or durations for any of the animals that were part of the study (Beerda et al. 1997)[4]. However the study was limited to beagles and did not test the effects of distant noise or air blast from blasting on various breeds.

  Noise modeling for the Project predicts that daytime and nighttime noise levels will not exceed thresholds set by the World Health Organization (WHO) for indoor occupants in residential areas to prevent sleep disruption in humans. Unfortunately the WHO does not provide guidelines for noise levels related to pet noise phobia. Stantec has prepared a supplemental memorandum providing the results of additional noise modeling to predict the maximum sound levels for multiple receptors including homes in Aberdeen. This modeling predicts that the maximum sound level at the Aberdeen Development receptor will not exceed 44.8 Max dBA which is approximately equivalent to an electrical transformer and well below typical conversation levels. In the event these noise levels result in pet noise phobia reactions, there are many treatments available including desensitization training, counterconditioning, behavior modification, and in some cases medications[5].

  Importantly the noise and blasting mitigation measures described in Section 6.17 of the Application/EIS and the commitment to develop a noise management plan with the objective to ensure that noise levels during all phases of the Project are acceptably low for human and wildlife receptors, as per human health guidelines established by Health Canada and the WHO are planned to effectively reduce noise levels. These measures should reduce risk of pet noise phobia. However, KAM recognizes the concern of noise effects on pets and has developed a public complaints procedure to help monitor unintended effects such as these to the community.

- **Community benefit agreement**: Contrary to media coverage, KAM has not "terminated" negotiations with the City in regard to a benefits agreement. At the time of writing, KAM continues discussion with the City.

[4] Beerda et al. 1997. Manifestations of Chronic and Acute Stress in Dogs. Applied Animal Behaviour Science 52 (1997) 307-319

[5] A. V, , W. S, , Vyavahare NSa, H. S. Noise Phobia in Dog. www.scopemed.org/?mno= [Access: December 21, 2016].

5. CONCLUSION

Thank you for taking the time to contribute to the EA/EIS review process and providing input to support our goal for continuous improvement. We appreciate your comments and share your concern of ensuring that the socio-economic assessment was carried out thoroughly. The Application/EIS is currently undergoing regulatory review by subject matter experts to determine adequacy of the socio-economic assessment, among others. KAM is confident in the Application/EIS and is working with the regulators to justify the assessments. We are committed to any additional requirements and/or commitments which may arise as a result of the review.

6. USEFUL LINKS

The responses provided in this document make reference to a range of other related materials. For ease of reference, links to the following materials are provided. Specific cross-references are also provided in the text.

KGHM Ajax Mining Inc.
http://ajaxmine.ca

EAO e-PIC site for the Ajax Mine Project
https://projects.eao.gov.bc.ca/p/ajax-mine/detail

Ajax Project Application/EIS
https://projects.eao.gov.bc.ca/p/ajax-mine/docs?folder=161

Plain Language Summaries of the Application/EIS
http://application.ajaxmine.ca/Home.aspx

Responses, including supplemental technical memorandum, provided to the Technical Working Group
https://projects.eao.gov.bc.ca/p/ajax-mine/docs?folder=220

Figure 1-2
Document Map

Project & Proponent

Project Design and Location (Section 2.1)
- Disclosure of assay results
- Tailings storage design ("wet" vs. "dry stack")
- Design/engineering of TSF and other components
- Peterson Creek diversion and its implications
- Previous mining at the Ajax site does not justify the Project
- Plans for future expansion of the Project
- Request for other specific information
- The Project is located too close to the city

Proponent – KAM/KGHM (Section 2.2)
- Lack of trust in proponent
- Reputation of KGHM globally, and experience with other KGHM mines
- Allocation of liability between KAM and KGHM
- Proponent has not earned social licence to operate
- Proponent should be held accountable for impacts

Economic feasibility of the Project (Section 2.3)
- Uncertain economic feasibility/profitability due to mineral prices
- Proponent's ability to pay for mitigation (including financial costs, feasibility study)
- Critique of feasibility study

Environmental Assessment Process

Assessment Methodology (Section 3.1)
- Definition of footprint/infrastructure disturbance area
- The assessment methods (including models and other tools) are not adequate
- The EA should not rely on 'best-case' scenarios
- Consideration of cumulative effects

Consultation and Engagement (Section 3.2)
- Public consultation process has not been effective
- Post-EA community engagement processes (including complaints)
- Question about how public comments will inform decisions

Management, Monitoring, and Follow-up (Section 3.3)
- Mitigation measures (in general) are not sufficient
- Need to establish baselines for monitoring
- Disclosure of monitoring results/reports
- Community Liaison Group
- Will mining activities change in response to environmental conditions (e.g. air quality exceedances, drought restrictions)?
- Potential changes to EA conditions/permit limits in the future
- Detailed comments regarding management plans, monitoring, reporting

Aboriginal Interests (Section 3.4)
- Aboriginal culture and history
- First Nations rights, title, land claims
- Consultation with Aboriginal groups

Regulatory Process

Comments in relation to the "regulatory process" are beyond the scope of KAM's influence and authority.
The public comments related to the EA process, administration of the process, and compliance and enforcement of government policies and acts, were deferred to the EAO for their consideration.

Environment

General (Section 4.1);
- Environmental risks/impacts (general)
- The Project will lead to contamination of soil, water, air, plants, etc.

Climate Change and GHGs (Section 4.2)
- Project's contribution to climate change and greenhouse gases
- Future climate change, drought, and/or storm events are not accounted for in Project planning, design, modelling, or assessment

Geology, Landforms, and Soils (Section 4.3)
- Potential effects on land stability in Aberdeen
- Soils/silt and related studies
- Critique of geochemical model/calculations (including 'acid test')
- Critique of Geology, Landforms and Soil assessment

Surface Water and Groundwater (Section 4.4)
- Adverse effects to water quality (general)
- Effects to Peterson Creek, Anderson Creek, and Jacko Lake (including water quality and heavy metals)
- Downstream water quality (lower Peterson Creek, Thompson River)
- Concern for the broader Thompson area watershed
- Effects on groundwater including Peterson Creek aquifer
- The Project will use/consume too much water
- Community/household water supply
- Critique of water modelling/calculations

Fish and Fish Habitat (Section 4.5)
- Effects on fish and fish habitat
- Impacts on salmon
- Effects of blasting/vibration on fish
- Inks Lake, including fish stocking
- Critique of Fish and Fish Habitat assessment

Vegetation and Ecosystems (Section 4.6)
- Effects to plants and ecosystems
- Effects to rare plant species
- Effects to grassland ecosystems
- Effects to wetlands (including Goose Lake)
- Invasive plants

Wildlife (Section 4.7)
- Effects on wildlife and wildlife habitat
- Effects on protected birds and wildlife species
- Effects on birds and nesting grounds
- Effects on bears
- Effects on bees/pollinators
- Effects on reptiles, amphibians
- Wildlife/bird mitigation and restoration of habitat

Economy

Economic Benefits (Section 5.1);
- Retention of economic benefits in the community
- Economic benefits are short-term/ unreliable/ boom-and-bust
- Economic benefits do not offset other impacts

Labour Force, Employment, and Income (Section 5.2)
- Accuracy of employment/labour market predictions
- Uncertainty about locally available jobs and hiring practices

Business (Section 5.3)
- Adverse effects on local businesses and economy

Economic Growth, Development, and Diversification (Section 5.4)
- Tax contributions of the Project
- Economic effects of population change/out-migration
- Concerns regarding mining as the focus of the Kamloops economy
- Project will adversely affect tourism and other sectors/ Industries

Property Values (Section 5.5)
- Concern that property values will decline
- Critique of property values assessment

Other Economic Concerns (Section 5.6)
- Financial costs related to impacts will be borne by the City/taxpayers
- Critique of economic modelling/assessment
- Request for cost-benefit analysis (or similar valuation analysis)

Social & Community

The Kamloops community (Section 6.1);
- Project will alter the community's image/reputation
- Tournament Capital brand
- Project contributes to social divisions in Kamloops
- Changes in local population and demographics
- Compliance with KAMPLAN and other municipal plans/investments

People living near the Project (Section 6.2)
- Effects on nearby residences, schools and other facilities
- Blasting and other noise will disturb people living nearby
- Blasting/vibration may damage buildings and infrastructure
- Compensation/mitigation for people living near the Project
- Comment about a specific property/landowner

Infrastructure, Public Facilities, and Services (Section 6.3)
- Effects on TRU and student recruitment
- Housing affordability and availability
- Use of existing roads and highways
- Road access in case of emergency

Visual Impact and Dark Sky (Section 6.4)
- Light pollution from the site
- Views and visual impact of the Project

Agriculture and Ranching (Section 6.5)
- Agricultural Land Reserve (ALR)
- Effects on ranchers and ranchlands
- Water Licences

Recreation (Section 6.6)
- Effects on recreation near the mine site
- Effects on fishing activities
- Closure of Goose Lake Road
- Environmental impacts will affect enjoyment of community and outdoor/natural areas

Social Assessment Methods (Section 6.7)
- Critique of social assessment

Health

General (Section 7.1);
- Health assessment should be more holistic, including pathways such as income, recreation, stress, and other factors
- Prediction of health impacts and risks

Air Quality – General (Section 7.2)
- Adverse effects on air quality (general)
- Kamloops' air quality is already poor, and the Project will make it worse
- Air quality in southwest Kamloops neighbourhoods (Knutsford, Aberdeen, Pineview Valley, Upper Sahali)
- It is unacceptable to exceed air quality standards
- Effects of diesel emissions on air quality
- Use of water will create haze/fog

Air Quality – Dust and Particulate Matter (Section 7.3)
- Increased levels of dust/particulate matter (general)
- Increased levels of $PM_{2.5}$
- Mineral content of dust and particulate matter
- Environmental implications of dust (e.g. contamination of soil and water)
- Dust control/management measures
- Particulate matter won't stop at Aberdeen Drive

Air Quality – Studies and Models (Section 7.4)
- AQ data collection/monitoring stations and available baseline data
- Critique of air quality modelling and calculations

Health and Air Quality (Section 7.5)
- Health effects of air quality (general)
- Health effects of $PM_{2.5}$
- Health effects of air quality exceedances during winter months
- Health effects of air quality in valley/lower elevations.
- Health effects of diesel emissions

Health and Water Quality (Section 7.6)
- Safety and quality of drinking water

Country Foods (Section 7.7)
- Effects on country foods (including cattle, gardens, wild foods)
- Critique of country foods assessment/assumptions

Noise and Vibration (Section 7.8)
- Blast tests have not been conducted
- Critique of noise and vibration studies

Health and Noise/Light (Section 7.9)
- Noise may result in sleep disturbance and annoyance
- Effects of light pollution on human health

Other Health Risks and Concerns (Section 7.10)
- Health risks for workers at site
- Health impacts related to transmission line
- Exposure to 'toxic' substances (e.g. heavy metals, uranium, asbestiform, carcinogens) through dust or other pathways
- Impacts on health of vulnerable groups (including children and seniors)
- Critique of health impact assessment, including HHERA

Healthy Living and Health Education (Section 7.11)
- Critique of Healthy Living assessment

Community Health and Well-Being (Section 7.12)
- Perception of risk can affect land use and well-being
- Concern about stress and mental health effects
- Concern that doctors and other professionals will be less likely to choose (or stay in) Kamloops as a place to live and work
- Effects on healthcare costs/capacity as a result of health issues
- Community well-being effects commonly associated with mining
- Adverse effects to quality of life
- Critique of Community Health and Well-being assessment

Heritage

Archaeological Sites (Section 8.1)
- St. Peter's church and cemetery

Closure & Reclamation

Closure and Reclamation (Section 9.1)
- Concern about what will remain after closure
- Closure and long-term management of tailings storage facility
- Post-closure responsibilities for environmental management (including financial costs)
- Restoration of grasslands
- Quality of environment (including metal concentrations) after reclamation
- Request for Care and Maintenance Plan in the event of temporary/permanent closure

Safety

Safety, Accidents, and Malfunctions (Section 9.2)
- Downstream risks/impacts of an accident at the mine site
- Experience with Mt Polley and other mining incidents
- Financial (and other) responsibilities in the event of a major incident
- Geotechnical/ground stability risks at the mine site
- Emergency response/remediation plans in case of an accident or incident
- Critique of Accidents and Malfunctions assessment

Miscellaneous

Miscellaneous (Section 9.3)
- Community benefit agreement / community investment
- Concern about Malartic experience
- Comparison to other projects
- Concern about interaction with TransMountain Pipeline
- Comment about quality/completeness of the Application
- Claims of "Zero Harm" and "No Significant Impact"