



MEMORANDUM

To: Kamloops Area Preservation Association **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

To the members of the Kamloops Area Preservation Association (KAPA):

Thank you for your comments provided on the Ajax Project Environmental Application/Environmental Impact Statement (Application/EIS). This memo provides information as to how the concerns raised in your submittals are being addressed.

1. INTRODUCTION

As part of the environmental assessment review process for the Ajax Project (the Project), the BC Environmental Assessment Office (EAO) and the Canadian Environmental Assessment Agency (the Agency) held a 75-day public comment period from January 26 to April 11, 2016. The following key submissions were received on behalf of the Kamloops Area Preservation Association (KAPA)¹:

- KAPA submission dated April 7, 2016;
- Noise and Vibration report from RWDI dated April 11, 2016;
- Evaluation of Solid-Phase Analytical Techniques from MDAG dated March 31, 2016;
- Economic Risk Analysis from Mining Watch dated April 11, 2016; and
- Soils review from Kent Watson, dated April 10, 2016.

KGHM Ajax Mining (KAM) appreciates the level of effort the KAPA has put into review of the Project, and is pleased to provide the following response, which outlines KAM's understanding of KAPA's key issues, and summarizes how KAM is addressing these topics.

¹ A number of additional submissions were received from individuals that KAM believes to be active KAPA members. These were also catalogued and tracked; however, their content largely reflects the information from the above listed submissions. In addition, all submissions from KAPA and KAPA members have been included in the public comment response process, described in further detail below.

2. KEY ISSUES AND ACCESS TO INFORMATION

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 sorted them into 177 issues (see attached Document Map), and then developed responses to these issues. These responses are provided in the public response report prepared by KAM (*Ajax Project: Public Comment Response Report*, January 2017); the response report is posted on the EAO ePIC website, and available for public review. As KAPA has also been engaged in earlier stages of the environmental assessment, KAM would like to take this opportunity to directly respond to your submission. KAM's direct response to your submission 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.

KAM reviewed your submission and considered where your comments were raised by other parties in the public comment period and where the issues in your letter may have been unique. KAPA's interests are broad ranging, and essentially touch on many of the 177 issues that were identified. Therefore, KAM recommends that KAPA members review the public response report for responses to each issue of interest.

In reviewing the public response report, you will find that KAM has provided a substantial set of supplementary material to EAO and the Agency in response to comments received by technical reviewers on behalf of the City, Stk'emlupsemc te Secwepemc Nation (SSN), provincial and federal agencies, and other Working Group members. Within those supplemental documents, there are a number of key updates to Project design, and new commitments to mitigation that KAM has made in response to the comments received. Some particular topics of interest include:

- Project Design:
 - Updated Peterson Creek Diversion System;
 - Updated Fish Habitat and Fishery Offsetting Plan;
- Mitigation Measures and Commitments:
 - Fugitive Dust Management Plan;
 - Peterson Creek streamflow;
 - Updated Wildlife Management and Monitoring Plan;
 - Grassland restoration and enhancement (>2,000 ha on Sugarloaf Ranch);
 - Ephemeral wetlands included in compensation calculation;
- Additional Analysis and Assessment:
 - Air quality modelling;
 - Groundwater, water balance, and water quality modelling;
 - Cumulative effects of water quality in Lower Peterson Creek; and
 - Critical habitat for wildlife including SARA listed species.

Recognizing that these supplemental submissions add to what is already a large volume of material; KAM has also developed a few tools to support technical reviewers, including a directory of supplemental memos, and a set of integrated summary memos, which summarize, from KAM's perspective, the key supplemental responses and their implications for the review process. While these tools were developed for technical reviewers, we anticipate that they may also help facilitate your review, and as such refer to section 5 Useful Links, below.

3. RESPONSE

Below, responses to the five KAPA submissions are provided, with reference to applicable content in the public response report and/or supplemental technical material.

3.1 KAPA Submission (April 7, 2016)

KAPA's report (dated April 7, 2016) touches on a number of topics, many of which are addressed in the responses to the 177 'key issues' in the public response report. The comments and questions raised in KAPA's submission are summarized below, with reference to the applicable sections of the public response report, or other sources of information. References to a specific response number (e.g. "Response 2.2.3") refer to a section of the public response report (in this case, Response 2.2.3 of the public response report responds to the issue "*Allocation of liability between KAM and KGHM*").

Additional responses to some items identified in the table above are provided below.

3.1.1 Valued Components

Comment: In 2012, the Community Advisory Group (CAG) had requested that a number of topics be included in the Application/EIS as valued components. This included proposed wildlife species of beaver, muskrat, black bear, and cougar, as well as pollinators (e.g. bees, butterflies). The CAG also asked that the visual assessment include the visual impact of blast plumes.

Response: The valued components (VCs) for the assessment were subject to consultation—led by the EAO and including the technical working group (including representatives of government agencies and First Nations)—in late 2012. The suggestions of the CAG were considered by all parties at this time, but ultimately these suggestions were not included in the list of VCs. Further information is provided in the public response report, including Response 4.7.5 (effects on pollinators), Response 4.7.4 (effects on bears), Response 4.7.1 (effects on wildlife and wildlife habitat).

In regard to the visual impact of the proposed Project, blast plumes are typically quickly dispersed, and are therefore temporary. As such, the effects of blast plumes on the broader viewshed or landscape were not included in the visual impact assessment. KAM has made commitments to manage blast timing to avoid prime fishing time periods. This would have the effect of reducing the likelihood that blast plumes would have a visual impact during periods of higher recreational use in an area where the blast plume may be expected to be more visible.

Topic	Summary of Concern	Response Report Section / Notes
Proponent and Project Description		
Proponent	Corporate structure of proponent and relationship between KAM and KGHM Polska Miedź S.A.	Response 2.2.3
Project Location	Potential damage to Lac le Jeune Road	Response 6.3.3
Project Design	Location of TSF (upstream of the city)	Response 9.2.1
	Overburden stockpile is located downwind of mine emissions and could be contaminated	The air quality model results do not show a need to re-locate the overburden stockpile.
Site Geochemistry	Mass balance accounting in emissions predictions	The geochemical source terms (Appendix 3-B of the Application/EIS) were developed using scheduled tonnages of rock based on the mine plan and the block model.
Blasting	Blasting charge size and particle distribution is needed to determine dust emissions	KAM will implement a blasting management plan to monitor, evaluate and adapt blasting practices to ensure that impacts are under the specified thresholds.
Process and Methodology		
EA process	Assessment process believed to be flawed for a number of reasons	Comments about the EA process were provided to the EAO. Many of these concerns are also addressed in the public response report.
Valued Components	Selection/rejection of proposed valued components	See 'Valued Components' discussion below
Cumulative effects	Plans for future expansion of the Ajax Project	Response 2.1.6
	The CEA should include HVC mine (Bethlehem expansion), Bonaparte Mine, and future expansion of Ajax Project	See 'Cumulative Effects' discussion below

Topic	Summary of Concern	Response Report Section / Notes
Environmental Effects		
GHG emissions	Loss of carbon sinks (due to land clearance) not included in GHG inventory	<p>Loss of carbon sinks due to land clearance was included in GHG Management Assessment. The Project will affect existing carbon sinks through clearing of existing groundcover for components such as the Open Pit, Mine Rock Storage Facilities (MRSF), and Tailings Storage Facility (TSF). Reclamation of disturbed areas will mitigate for the temporary loss of some existing carbon sinks [Section 6.1.1, page 6.1-2]. The footprint area of the major facilities where land use changes are anticipated is used to calculate the potential net loss of carbon sinks as a result of the Project [Section 6.1.4.1, page 6.1-26]. The effects of the Project on GHG Management is determined through a comprehensive inventory of GHG emission releases from the Project and GHG removals by carbon sinks for a defined area over a specified period of time. The inventory includes emissions from both direct and indirect sources and carbon sinks, in accordance with the Federal-Provincial-Territorial Committee on Climate Change and Environmental Assessment (2003) [Section 6.1.4.2, page 6.1-26]. The effect of the Project on carbon sinks is presented in detail in Section 6.1.4.2 (page 6.1-38): “Effect 2: Land Use Changes as a Result of the Project will Affect Carbon Sinks and Increase GHG Levels in the Atmosphere”. Land Use Change Emissions are summarized in Table 6.1-11 (page 6.1-42): total annual average change in GHG levels in the atmosphere as a result of land use changes (i.e., loss of carbon sinks) from the Project is anticipated to be 2,538 CO₂eq/year.</p>
Groundwater and surface water	Groundwater in the tailings area and its connectedness to Jacko Lake and Peterson Creek has not been completely studied and documented	<p>Response 4.4.5</p> <p>Supplemental memos:</p> <p>0415_KAM_Jacko lake and GW Quality</p> <p>0426_KAM_PCPT_BGC-003</p> <p>0706_KAM_Conceptual_Model_BGC-001</p> <p>0706_KAM_ELFZ_Model_BGC-002</p>
Wetland compensation	<p>Lack of commitment for KAM to maintain, restore, and protect the wetlands in the Ajax project footprint, including methods for compensation, financial commitment, and documentation of total size of wetlands affected</p> <p>Enhancement of Inks Lake (to compensate for loss of wetlands) needs further study</p>	<p>Response 4.6.4</p> <p>Response 4.5.4</p>

Topic	Summary of Concern	Response Report Section / Notes
Project Economics / Economic Effects		
Feasibility of the Project	Feasibility of the project needs to be proven, including ability to pay for mitigation/compensation	Response 2.3.1 Response 2.3.2
Economic growth	Economic assessment, based on input-output model, does not account for 'genuine wealth growth', costs of community/environmental impacts, or potential job creation if capital were invested in other sectors	Response 5.6.3
	Economic costs of health impacts of increased air pollution	Response 7.12.4
	Failure to account for electrical power subsidy	Comments about power subsidies were provided to the EAO.
Labour Force, Employment and Training	Level of local hiring will affect net increase in income for the city (i.e. high level of local hiring will not be a net benefit in regard to income)	Discussion provided below
Property values	KAM should commit to providing real-time blast, noise, and vibration monitoring data to residents within 5 km of the mine site, as well as public complaints process; they should also pay for structural inspections of properties within 3 km of blasting	Response 3.2.2 Response 3.3.3 Response 6.2.3 Response 6.2.4
Social Effects		
Visual impact	KAM should install a webcam to record each blast and post the recording on a public website	KAM is committed to transparency and will ensure that the results of monitoring programs are publicly available, including real-time noise and air quality monitoring results available through an on-line platform. However, there are no plans to install a live feed via webcam at this time.

Topic	Summary of Concern	Response Report Section / Notes
Social Effects (<i>cont'd</i>)		
Visual impact (<i>cont'd</i>)	Application should describe the meteorological conditions under which a blast plume may persist and affect people downwind	<p>The air quality assessment technical data report (Appendix 10.1-A) details the effects of emissions of oxides of nitrogen (NOx) from all project sources, including a blast daily at noon. As can be seen in the results, the maximum predicted concentrations of nitrogen dioxide (NO2) are well below the most stringent objective at the Plant Boundary, and are diminished further at the limits of residential development in Aberdeen. Air quality will be monitored at the Project for potential noxious fumes generated by blasting activities. In the unlikely case that noxious fumes are observed at the Project, emergency action will be initiated as per the Blasting Management Plan being developed for the Project permitting. It is important to remember that the mine employees will be present on-site during blasting. By ensuring the protection of the health and safety of employees, this will help to ensure safe air quality levels for all communities.</p>
Health Effects (including Air Quality)		
Offsetting emissions	The Interior Health Authority has suggested that KAM could offset mine emissions through investments in non-Project emissions reductions in the air shed, but offsetting in this manner should not be considered mitigation	As described in Section 10.1.4.3 of the Application/EIS, the air quality mitigation measures include the appropriate engineering/design and operational practices of the Project. Offsetting air emissions is not proposed in the air quality assessment.
Carcinogenic substances	Asbestifrom actinolite and chrysotile serpentine are carcinogens, and sufficient actinolite and serpentine samples should be tested to determine their levels in the deposit	Response 7.10.3
Meteorological baseline	Request to make the baseline meteorological data (used and referenced in the Application) publicly accessible so that data can be externally reviewed	Data has been made available to technical reviewers.

Topic	Summary of Concern	Response Report Section / Notes
Health Effects (including Air Quality; <i>cont'd</i>)		
Emission factors	Concern that emissions have been underestimated, with implications for human health assessment; 14 specific areas of concern are identified	<p>Response 7.4.2 Response 7.10.5 Supplemental memos: 0428_KAM_Fugitive Dust Mitigation Plan 0331_KAM_CALMET Wind Rose_Ajax Upwind 0331_KAM_CALMET Wind Rose_Kamloops Airport 0725_KAM_Combined Stantec Responses to EAO 001-006</p> <p>KAM is committed to minimizing dust generation from the Project. Topsoil and overburden stockpiles from construction stripping will be managed by appropriate plans and mitigation measures with the goal of reducing dust during handling and transport. Once placed at long-term storage locations, soil and overburden stockpiles will be vegetated to improve physical stability of the stockpiles and reduce the potential for erosion by both wind and rain.</p> <p>For the environmental assessment, the approach taken by KAM has been to propose a more conservative (larger) project design than what is expected to be built and operated. Ongoing optimization of the Project is expected while staying within the effects predicted in the Application/EIS. The main source of diesel emissions and fugitive dust is haul truck movement along the mine haul roads (in and out of pit), less so that other mining equipment activities. The re-handling involves loading, unloading and dozing which are minor emission sources compared to haul truck movement. The specific material re-handling noted from year 3 of the Feasibility Study Update would constitute a minor emission source well within the bounds of the conservative factors applied to the 'worst case years' used for assessment. The continued refinement of engineering and mine plans is a normal part of the permitting process. Air quality monitoring will be put in place to proactively manage emission sources, evaluate effectiveness, and adaptively manage changing conditions such as weather or unexpected project related conditions.</p> <p>Despite the proximity of the EMRSF to the Aberdeen neighbourhood the 'waste rock' category (which includes the 'overburden' area or EMRSF) contributes very little TSP, PM₁₀ and PM_{2.5} at the Pacific Way Elementary receptor. For example, the entire 'waste rock' category contributes only 2.5%, 2.7% and 3.2% respectively to annual TSP, PM₁₀ and PM_{2.5} at Pacific Way Elementary. The Haul Roads and Pit activities contribute over 80% of the annual TSP, PM₁₀ and PM_{2.5} at Pacific Way Elementary.</p> <p>The results from dispersion modelling of year 3 would not be materially different from year 4/8.</p>

Topic	Summary of Concern	Response Report Section / Notes
Health Effects (including Air Quality; <i>cont'd</i>)		
Health effects	Assessment lacks consideration of health effects due to noise and light, including sleep disturbance	Response 7.9.1 Response 7.9.2
Noise and vibration	Noise impacts from activities at the EMRSF have not been accounted for in noise modelling and Application/EIS.	Mine fleet activity at the EMRSF has been accounted for in the noise model.
Dust control	Application provides insufficient information to determine the effectiveness of water and dust suppression agents for dust control	Response 7.3.5
Accidents and Malfunctions		
MRSF	The spatial extent of a failure of the SMRSF or the EMRSF has not been done, particularly the potential of such a failure to block Peterson Creek	Slope failure of EMRSF and SMRSF are considered in Section 17.6. Although the extent of a failure is not mapped, quantitative values are provided that help gauge magnitude. Section 6 of Appendix 3-I of the Application/EIS describes the stability analysis of the MRSFs.
CAG comments	A number of comments from the CAG (re: AIR/EIS-G) regarding insurance coverage and legal liabilities, have not been addressed, including insurance questions related to: Pollution Risk events (e.g. accidents, malfunctions) Damage to, or impacts on, private property Bonding requirements for mining developments	Response 9.2.3

3.1.2 Cumulative Effects

Comment: KAPA requests that the cumulative effects assessment, as described in the cumulative assessment methodology in Section 5.3 of the Application/EIS, include the HVC mine (Bethlehem expansion), Bonaparte Mine, and future expansion of Ajax Project.

Response: The list of past, present, and reasonably foreseeable projects/activities, is presented in Table 5.3-1 of the Application/EIS. The HVC mine's potential "Bethlehem expansion" was included in the list of projects that could potentially have a cumulative interaction with the potential effects of the Ajax Project, as was the Bonaparte Mine.

At this time, there are no plans for future expansion of the Ajax Project, and the Project presented in the Application/EIS is the full extent of the mine site and infrastructure that KAM seeks approval to build. As such, future expansion of the Ajax Project is not considered to be "reasonably foreseeable" and is not included in the cumulative effects assessment. If plans develop in the future, they would be subject to the applicable permitting and approval processes. Further information about this issue is provided in Response 2.1.6 of the public response report.

3.1.3 Labour Force, Employment, and Training

Comment: In Section 13 of their report, KAPA questions the 'net income gain' to Kamloops, stating that: *"If Ajax employs [skilled industrial workers who currently travel out of town for employment], and no workers from within or outside of Kamloops take the place of these migrant workers, there may be no net income gain to Kamloops, and possibly even a net income loss, if these workers were to take a cut in pay. Importing workers who do not currently reside in Kamloops to work at Ajax, on the other hand, will constitute a net increase in income for the city."*

Response: The generation of jobs and employment income is considered to be a benefit to the Kamloops community, regardless of the existing working arrangements of potential future employees. If workers are currently reliant on out-of-town employment, work with the Project will provide industry standard incomes and the ability to return home each day. In the event that Project workers (during the operation phase) are not currently residents of Kamloops, the vast majority are expected to permanently relocate to Kamloops, as the Project will not operate on a fly-in/fly-out rotation, nor will accommodation be provided. Thus, the incomes of these workers will be retained in the community. In addition, supplier industries and local services will generate indirect and induced employment, and associated income.

3.2 RWDI: Noise and Vibration Report (April 11, 2016)

The RWDI report provides a detailed interpretation and discussion of the noise and vibration studies conducted for the Project, and poses some specific questions and recommendations. KAM appreciates the review provided, and has passed along the specific technical comments to our team for consideration in subsequent work as the Project advances. The RWDI report has also been shared with the technical working group including provincial and federal regulators.

Consistent with RWDI's conclusions, KAM acknowledges that sound from mining operations; ground vibration and air overpressure will all become part of the environment in local neighbourhoods. While these changes may be distinguishable at times, they will not be louder than other local sounds.

3.2.1 *Public Responses*

KAM's responses to the 177 key issues identified through the public comment process are provided in the public response report. Some of these issues relate to the comments in the RWDI report, including:

- Response 6.2.1 (Effects on nearby residences, schools, and other facilities)
- Response 6.2.2 (Blasting and other noise will disturb people living nearby)
- Response 6.2.3 (Blasting/vibration may damage buildings and infrastructure)
- Response 7.8.1 (Blast tests have not been conducted)
- Response 7.8.2 (Critique of noise and vibration studies)
- Response 7.9.1 (Noise may result in sleep disturbance and annoyance)

3.2.2 *Commitment to Mitigation and Management*

KAM agrees that proactive and preventative measures are key aspects of responsible mine development. In the Application/EIS, KAM committed to creating a plan to monitor, evaluate and adapt blasting practices to ensure that impacts are under the specified thresholds. A description of a seismic and air blast monitoring array is provided in Appendix 10.5-A (see Section 5 in Appendix D therein).

Advance communication is also important. As described in Section 11.21 (Access Management Plan), notification and communication to the public prior to blasting events will include:

- signage to be erected at the access gate, Jacko Lake boat launch/picnic area, and roadways;
- KAM website;
- social media;
- handheld radio KAM frequency; and
- direct emails and/or SMS text to registered individuals, parties and stakeholders.

Finally, in the Noise and Vibration Management Plan (Section 11.22 of the Application/EIS), KAM has committed to developing a complaint resolution process. KAM will respond respectfully to all complaints and implement all feasible and reasonable measures to address the issue.

3.2.3 *Specific Comments*

Specific comments and questions raised by RWDI are summarized in the table below.

Topic	Description	Response
Nighttime criteria	<p>The assessment cites the WHO recommended threshold as “42 dBA for the nighttime period”. The WHO document cites the 42 dBA value as an L_{max}, inside, in Table 5.1 of the WHO document. The final WHO recommendation of 40 dBA for nighttime noise was in Table 5.4 of the WHO document (WHO 2009). It is not clear in the definition or the results discussion that the 42 dBA values are used as a short term maximum.</p> <p>Proponent should clarify whether the 42 dBA value from the WHO 2009 reference was used in the context of an L_{max}, and if so, explain why short term sounds from equipment moving on the EMRSF were not evaluated to compare to this limit.</p>	<p>The WHO document cites threshold values as an $L_{Amax,inside}$ between 32 dBA to 42 dBA, depending on the type of biological effects or sleep quality. The value of 42 dBA was used in the context of $L_{night,outside}$ for the effect of increased average motility when sleeping. The $L_{night,outside}$ is an equivalent noise level over the nighttime period, not a maximum sound level.</p>
Noticeability of changes	<p>Variation of sound over time was not discussed in the assessment. No easy criteria exist for variation of environmental sound, but could have been discussed in terms of human perception to changes in sound.</p> <p>Proponent should provide a discussion on the noticeability of changes in sound level and the expected change in sound during night and day periods.</p>	<p>The noticeability or perceptibility of noise effect and the change in sound during day and night periods was discussed in Section 10.5.4.2 “Comparison to Baseline Sound Level during Construction and Operation” of the Application/EIS.</p> <p>The noise guideline (BC OGC²) and guidance (Health Canada³) are based on equivalent sound level over the daytime and nighttime period.</p> <p>Detailed Project design information is not available to predict the minute to minute noise effect within the daytime and nighttime periods. Additionally, sound levels also vary for different receptor locations making it difficult to quantify the change in sound level to such detail.</p>
Assessment of all receptors	<p>For continuity and clarity, the measurement receptors should have also been included in the list of assessment receptors as their exclusion created questions as to why. This would also provide control points for future confirmation/compliance monitoring.</p> <p>Proponent should provide assessment results for all baseline noise monitoring locations and discuss the potential change.</p>	<p>Five out of the six measurement locations are not receptor locations. The definition of a receptor is based on the BC OGC noise guideline and Health Canada noise guidance.</p> <p>The assessment results at the monitoring locations are presented in the noise and vibration contour figures (i.e. Figures 10.5-3 to 10.5-6) presented in the Application/EIS.</p>

² British Columbia Oil and Gas Commission (BCOGC). 2009. British Columbia Noise Control Best Practices Guideline. March 2009. Fort St. John, BC.

³ Health Canada. 2010. Useful Information for Environmental Assessments. 2010

Topic	Description	Response
Baseline variability	Proponent should carry the discussion of variability of existing sound levels from Appendix A of Appendix 10.5-1 of Section 10 forward to Section 10.5.	See response for “Noticeability of changes”
Source data	<p>The assessment identifies the method for determining sources as through vendor data, in-house measurement data and theoretical formulae yet the references used for each source are not provided. A detailed confirmation of the validity of the source data is not possible without knowing which method was applied to which source.</p> <p>The assessment identifies sound sources as being placed in the model as point line or area sources. However the tables in Section 10.5, Appendix 10.5-1 and Appendix C of Appendix 10.5-1 do not specify which method was applied to which source.</p> <p>Proponent should provide updated sound source tables that identify individual source references and model treatment as point, line or area sources.</p>	<p>The noise source references are summarized as follows:</p> <p>Reference 1: Theoretical Predictions Engineering Noise Control Theory and Practice, 3rd ed. Crocker, M. J. 2007. Handbook of Noise and Vibration Control. 2007.</p> <p>Reference 2: Manufacturer’s data (i.e. Caterpillar)</p> <p>Reference 3: UK Department for Environment Food and Rural Affairs (Defra) construction noise database</p> <p>Reference 4: Stantec noise emission measurement database.</p> <p>Noise sources were represented as point, line, or area sources in the model as follows:</p> <p>Point Sources</p> <ul style="list-style-type: none"> • Building ventilations (Reference 1) • Booster pump stations (Reference 1) • Transformers (Reference 1) • Dust collector (Reference 1) • Idling haul trucks (Reference 4) • Water intake pump station (Reference 1) • Primary crusher and associated equipment (Reference 1) • Rock breakers (Reference 1) • Track dozers (Reference 4) • Backup alarms (Reference 4) • Mobile equipment horns (Reference 2) • Compressors (Reference 4) • Piling (Reference 3)

Topic	Description	Response
Source data (<i>cond't</i>)		<p>Line Sources</p> <ul style="list-style-type: none"> • Conveyors (Reference 3) • Access road truck traffic (Reference 3) • Haul rock truck traffic (Reference 4) • Graders in pit 3 (Reference 4) • Haul truck in pits 1, 2, and 3 (Reference 4) <p>Area Sources</p> <ul style="list-style-type: none"> • building wall and roofs including all noise sources in inside the building (Reference 1) • Ore piles equipment (Reference 2, 3, 4) • TSRMRS equipment (Reference 2, 3, 4) • SWR equipment (Reference 2, 3, 4) • EMRSP equipment (Reference 2, 3, 4) • HPGR stockpile (Reference 1) • Coarse ore stockpile (Reference 1) • Pits 1, 2, and 3 equipment (Reference 2, 3, 4)
Back-up alarms	<p>None of the sound source descriptions discuss back-up or reverse alarms. These can be included as part of the measured data for equipment operation, or as a separate theoretical value. Back-up alarms are a pure tone source, often distinguishable from other background sounds due to the nature and purpose of the alarm. Proponent should ensure the assessment results include the effect of back-up alarms on mobile mine equipment. If included in measured data, a discussion of tonal sources and effects should be included. If not included, update sound source tables and assessment results.</p>	<p>Backup alarms and warning horns from mobile equipment are included in the assessment as indicated in Table 4-2 and Table 4-7 in Appendix 10.5-1.</p> <p>The backup alarm has a distinct tone at 1000 Hz which is audible at a close distance. However, this tonality effect typically attenuates to a lower level at further distance away.</p> <p>In combination with other noise sources and the background sound level, the tonality effect from a backup alarm may not be distinguishable at a receptor.</p>

Topic	Description	Response
<p>EMRSF sound sources, elevation, and proximity to Aberdeen</p>	<p>Spatial placement of equipment on the site is described in generic terms and a figure showing distribution of sound sources or noise contours within the Plant Boundary that highlights sound source areas, was not provided.</p> <p>While terrain is 'considered' in the model, cross sections from the EMRSF to Aberdeen are not available...nor was a discussion provided in the Noise and Vibration assessment regarding whether there will be 'line of sight' visibility to equipment on the EMRSF.</p> <p>Proponent should provide updated or new figures that demonstrate the location of sound sources in the model and verify the EMRSF had sound sources located on it, and at the appropriate elevations</p>	<p>Terrain is considered in the model for all three scenarios. The elevation of the EMRSF area source is 950 m (Year -1), 980 m (Year 2), and 990 m (Year 4 & 8). Receptor 13 is at a lower elevation and there is no line of sight visibility to equipment on the EMRSF.</p> <p>There is noise sources located in the EMRSF. The noise sources include support equipment such as haul trucks, dozers, excavator, loader, forklift, utility trucks, loader, and crane. The sources were model as a 150 m x 150 m area source, located approximately 2.3 km from Receptor 13.</p>
<p>Maximum sound levels</p>	<p>The 'worst case' scenarios for assessment were selected on the basis of when sound starts to be generated (Year 1) and maximum equipment or sound source numbers conditions (Year 4 and 8). Operating conditions considered the average use of equipment over a typical 24 hour period (for example, mobile equipment idling versus movement under load). A comparison of when sound levels for receptors in various directions from the Plant Boundary may be greater due to spatial arrangement of the equipment on site was not discussed or included. For large sites, it is possible for the maximum off-site sound level to occur when there is less equipment on the site as a whole, but what is present, is spatially closer to a receptor.</p> <p>Proponent should provide a sensitivity analysis comparing sound level predictions for the assessment model condition with the scenario where the most likely equipment is in closest proximity to Aberdeen and, if applicable, in direct line of sight to Aberdeen. Specifically for receptors 13 and 44. The results should include the partial contributions from all sound sources affecting the receptors.</p>	<p>Sensitivity analysis of a scenario for Year 4 & 8 where the EMRSF equipment is at location closest to R13 (approximately 1.8 km away) result in the same prediction level of 31.5 dBA. Year 4 & 8 has the highest predicted noise level at R13 in comparison to Year -1 and Year 2. The partial contribution from all noise sources indicates that the EMRSF equipment is not the dominant contributor. The ranking of the top twelve contributors are as follows:</p> <ul style="list-style-type: none"> • Haul road traffic from Pit to TSF mine rock storage area • Haul road traffic from Pit to SMRSF • Open pit primary crusher • Coarse ore conveyor • Main equipment in Pit • Haul road from Pit to crusher • Haul truck in Pit • HPGR and secondary crushing building • Access road traffic • Haul road to Ore Stockpile • Primary crusher discharge apron feeder • EMRSF equipment

Topic	Description	Response
Maximum sound levels (<i>cont'd</i>)	<p>While a separate analysis of pile driving was conducted for the construction phase, no calculations or modelling was conducted to estimate variability in sound levels from mining activity at receptors. Using the same model, calculation standard and parameters as identified in the assessment, a 120 dBA sound power diesel engine in direct line of sight at 1700m distance gives a result of 34.6 dBA. Two such engines results in 37.1 dBA. This indicates that mining related sound levels at receptor 13 and 44 that were predicted to be LAeq values of 29-31.5 dBA as reported in the assessment could have cyclic increases of at least 5 dBA, dependent on the scenario.</p> <p>Proponent should provide model predictions for the maximum expected sound levels at receptor 13 and 44 for the conditions when the most expected equipment is operating at the top elevation of the EMRSF. Predictions should not include load factors but should discuss the operating cycle (how often do trucks place material on the pile, how long do dozers work on the pile) to indicate how often during a day or night the maximums may occur.</p>	<p>Maximum sound levels have been assessed and the results are described in in memo "1219_KAM_EAO Request_Maximum Noise Assessment Results".</p> <p>This assessment predicts maximum sound levels associated with both steady-state and transient noise sources. The results are compared to maximum noise thresholds of 60 dBA $L_{Amax, outside}$ (WHO 1999) and 56 dBA $L_{Amax, outside}$ (WHO 2009).</p> <p>For receptors 13 (Aberdeen Development) and 44 (Pacific Way Elementary, maximum sound levels are not expected to exceed the identified thresholds.</p>
Detectable vibration	<p>The blast design analysis indicates ground vibration at or over the 0.5 mm/s detectable threshold can be expected as far as 4 km from a blast. This puts most of Aberdeen within the area that may detect ground vibration. However, the Ontario Ministry of Environment (OMOE) NPC-119 criterion assigns a human comfort level for nighttime vibration of 0.2 mm/s PPV, presuming that 0.2 mm/s is the human detection limit. This would be the level detected by any night-shift workers sleeping in the day.</p> <p>Proponent should provide the distance at which ground vibration attenuates to below 0.2 mm/s.</p>	<p>NPC-119 recommends a cautionary limit of 10 mm/s PPV. If the person in charge of a blasting operation carries out routine monitoring of the vibration, the recommended limit is 12.5 mm/s PPV.</p> <p>Stantec cannot find the reference of a nighttime vibration threshold 0.2 mm/s limit in the NPC-119. There is no nighttime blasting expected from this Project. The typical threshold of human perception of ground vibration is 0.5 mm/s peak particle velocity (Blasters' Handbook 2011⁴); however, the perceptibility threshold varies from person to person.</p>

⁴ Blasters' Handbook 2011. International Society of Explosive Engineers (ISEE) Blasters' Handbook, 18th Edition.

Topic	Description	Response
Detectable vibration (cont'd)		The distance at which ground vibration attenuates to below 0.2 mm/s are 7200 m and 1850 m for Zone 1 and Zone 3 blasting, respectively. The blasts plan divides the pit into three progressive zones (Zone 1 – Z1, Zone 2 – Z2, and Zone 3 – Z3) based on distance from Jacko Lake. Z1 is furthest and Z3 is closest to Jacko Lake. Different blast parameters are used in different zones.
Test blast	<p>The assessment predicts air overpressure above the 110 dBL thresholds may occur up to 2400 m from a blast, which indicated some of the nearest homes in Aberdeen to the mine site may experience air overpressures. The influence of atmospheric inversions on the intensity of air overpressure will depend on the specific blast design and the nature of the inversion. Monitoring will be required to determine the influence of inversions. Some intensification may occur, but the location of the increased overpressure due to refraction of the wave is generally determined through measurement, not prediction.</p> <p>Proponent should conduct a similar test blasting program to the test blasts conducted previously, to test the new design.</p> <p>The purpose is to provide a basis for comparison of the two designs.</p>	The test blast conducted in 2011 was intended to quantify technical aspects of the blast performance. KAM will monitor and “scale-up” blasting practices in accordance with a Blast Management Plan. Further information is provided in Response 7.8.1.
Mitigation and management	<p>The management plan should include:</p> <p>Scheduling of blasts based on weather conditions as a vibration and air overpressure control.</p> <p>Scheduling of blasts outside normal classroom hours to prevent student distraction.</p> <p>A commitment to clarify the use of 'continuously' rather than 'permanent' in reference to the noise monitoring locations. Is a series of noise monitoring periods envisioned or permanent stations?</p> <p>A plan to notify residents within the vibration detection distance of the blasting schedule or changes in major site activity/equipment movements (in addition to the complaint process).</p>	<p>A Blast Management Plan will be implemented during the operation phase and will include active daily monitoring and “scaling up” of blast practices. Noise and vibration from blasting will be monitored and practices will be adjusted to ensure that performance is maintained.</p> <p>The Blast Management Plan will implement best management practices including the use of onsite and other existing weather stations to monitor unfavourable atmospheric conditions (i.e. high velocity direction winds towards Kamloops, coupled with low lying inversions); blast procedures will be modified to reduce vibration effect during these weather conditions.</p>

3.3 MDAG: Evaluation of Solid-Phase Analytical Techniques (March 31, 2016)

This report provided insight into the analytical techniques used to quantify the solid-phase levels of metals and other elements contained within the rock. The report primarily compares the Project's use of an "aqua-regia" (two acid) method, compared to a four-acid digestion method, and notes that the selection of either method depends on the type of sample and the information required.

Determining the leaching potential of mine rock was a primary objective of the Ajax geochemical characterization program. Although the aqua-regia leach method does not provide a complete digestion of a sample, this method is recommended to determine the leachable metal content of mine rock samples. The aqua-regia digestion is referenced in recent guidance documents that describe best practices for geochemical practitioners assessing metal leaching / acid rock drainage (ML/ARD) issues. Three of these guidance documents for Canada, European Union and the mining industry are:

- Price, William A. 2009. Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials. MEND Report 1.20.1, Natural Resources Canada, December, 2009, 579 p.
- CEN. 2012. Characterization of Waste – Overall guidance document for characterization of waste from the extractive industries. Technical Report CEN/TR 16376 October, 2012, 136 p.
- INAP. 2014. Global Acid Rock Drainage (GARD) Guide. Prepared for the International Network for Acid Prevention (INAP) Rev.1 December, 2014.

In their presentation of review findings, the Minesite Drainage Assessment Group has suggested that only small-scale tests were used. In actual fact, drainage chemistry from large scale facilities was used to develop and validate the predicted geochemical source terms. The use of full-scale mine data is provided in Appendix 3-B of the Application/EIS. The geochemical 'source terms' were validated with drainage chemistry from:

- the Ajax field bins,
- existing waste rock facilities at the Ajax site, and
- other copper porphyry mines in British Columbia.

This issue was also included in the public comment report, and is addressed in Response 4.3.3.

3.4 MiningWatch: Economic Risk Analysis (April 11, 2016)

The report by MiningWatch Canada provides an alternative analysis of potential economic risks of the Project, based on the Project's feasibility study (dated February 19, 2016) and the economic information presented in the Application/EIS. The report concludes that—in the authors' opinion—the proposed Project "presents a serious financial and economic risk to investors, to the public and to governments". This conclusion is based on interpretations about:

- The financial viability of the mine, including estimates of mineral prices, market access, and capital/operating costs.
- Asserted Aboriginal title to land, and potential implications for Project land access.

- Cost estimates included in the feasibility study, including missing or underestimated costs related to:
 - insurance for potential accidents and malfunctions and associated clean-up costs,
 - potential delays (e.g., due to community opposition, relocation of Trans Mountain pipeline),
 - compensation/mitigation to the community and/or nearby property owners,
 - closure/reclamation costs, including perpetual care and maintenance,
 - dust mitigation and control.
- Inaccurate estimates of economic benefits, including failure to account for taxation, restitution to the SSN, power subsidies, and monetization of external social/environmental costs (e.g. impacts on air quality, tourism, property values etc.).
- Use of the Statistics Canada Input-Output model, which does not provide a full risk/benefit analysis considering the external environmental/social costs of the Project.

Considering these perceived weaknesses, Mining Watch calculated what the authors believe to be a more accurate cash flow for the Project, concluding Net Present Value is likely to be negative and therefore the mine is uneconomic.

3.4.1 *Public Responses*

Many of the issues identified in the Mining Watch report, and summarized above, are also addressed in the public response report. The following are some of the issues most directly related to the concerns raised by Mining Watch, and other relevant information may be found throughout the environmental, economic, social, and health responses:

- Response 2.3.1 Uncertain economic feasibility/profitability due to mineral prices
- Response 2.3.2 Proponent's ability to pay for mitigation (including financial costs)
- Response 2.3.3 Critique of feasibility study
- Response 3.4.2 First Nations Rights and Title
- Response 3.4.3 Consultation with Aboriginal groups
- Response 5.6.2 Critique of economic modelling/assessment
- Response 5.6.3 Request for cost-benefit analysis (or similar valuation analysis)
- Response 9.1.3 Post-closure responsibilities for environmental management (including financial costs)
- Response 9.2.3 Financial (and other) responsibilities in the event of a major incident

3.4.2 *Discussion*

KAM acknowledges that the Project's feasibility studies and Application/EIS do not provide a cost-benefit analysis incorporating environmental and social externalities that may affect, or be affected by, the Project. This is not the objective of either process, and these documents do not

attempt to provide this type of analysis. Instead of weighing costs and benefits, which can subjectively vary depending on the viewpoint, the provincial and federal environmental assessment process looks to ensure that key issues of concern are identified, and that potential adverse impacts are suitably managed.

Ultimately, the decision about whether a project should be given regulatory permission to proceed, and the allocation of an EA Certificate, is made by the responsible government Ministers, who consider the Application/EIS, comments from the public and First Nations, and any other relevant information.

KAM appreciates the effort that evidently went into the MiningWatch analysis. Developing an economically viable project is critical, and KAM is confident that the Ajax Project will prove profitable in the long term despite current challenges including depressed metal markets. KAM and its shareholders will not proceed with the Project unless they are satisfied of its economic fundamentals. KAM is also committed to the long-term management of environmental effects, and this commitment is supported by the regulatory framework of the EA process.

KAM will be required to provide financial security to safeguard the environment; under this financial security, all commitments, for temporary and ultimate closure, will be supported irrespective of the cash flows generated by the Ajax Project. The amount of the financial security will be estimated during the permitting stage based on increasing levels of disturbance contained in the forward-looking 5-year mine plan. The financial security amount and mine plan will be contingent on approval by the Inspector of Mines. Furthermore, KAM carries insurance coverage in respect of the Project and will maintain adequate coverage throughout the life of the Project.

3.5 K. Watson: Soils Review (April 10, 2016)

The report by Kent Watson critiques a number of appendices to the Application/EIS relating to soils, geology, and landforms. The key points of this analysis generally relate to responses provided in the public response report, including:

- Response 4.3.1 Potential effects on land stability in Aberdeen
- Response 4.3.2 Soils/silt and related studies
- Response 4.3.4 Critique of geology, landforms, and soils assessment
- Response 7.4.2 Critique of AQ model
- Response 7.8.1 Blast tests have not been conducted
- Response 9.2.2 Experience with Mt Polley and other mining incidents
- Response 9.2.4 Geotechnical/ground stability risks at the mine site

Substantial effort has been put into Project design and the development of the environmental assessment, involving a large team of technical experts from a wide range of fields who collaboratively developed a robust baseline data set and a number of complex modelling studies. The company has a vested interest in assuring that both Project components and Project emissions are appropriately and conservatively presented in the Application/EIS since the company will be

held to these requirements through permitting processes and internal environmental and safety performance processes. Conservative assumptions that tend to overestimate negative effects, and sensitivity analyses have been used to help reviewers understand areas where there are known uncertainties. In addition, third-party review, including engaging an Independent Engineering Review Board, has been used to provide additional oversight. KAM is confident that the studies that support the Application/EIS have been appropriately developed and are adequate to inform the environmental assessment process.

4. CONCLUSION

We value the feedback received to date regarding the Project and the conclusions of the environmental assessment. As a result of comments received, KAM has updated the Project design, and committed to additional mitigation measures, which together will help to minimize the environmental effects of the Project. We hope that the information provided in this letter, and in the larger public responses, continues to demonstrate our commitment to being an accountable, transparent, and credible operator of an environmentally responsible mining operation.

We remain of the belief that the Project can be developed and implemented in a manner that maintains health and social well-being at the family and community level, and that the Kamloops region will continue to support ecological diversity and economic opportunity.

We appreciate the comments received from the KAPA and look forward to continued collaboration. Thank you for taking the time to contribute to the Application/EIS process and providing input to support our goal for continuous improvement.

5. 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) <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• Aboriginal culture and history• First Nations rights, title, land claims• Consultation with Aboriginal groups
Regulatory Process <p>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.</p>	
Environment	General (Section 4.1); <ul style="list-style-type: none">• Environmental risks/impacts (general)• The Project will lead to contamination of soil, water, air, plants, etc. Climate Change and GHGs (Section 4.2) <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• 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); <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• Accuracy of employment/labour market predictions• Uncertainty about locally available jobs and hiring practices Business (Section 5.3) <ul style="list-style-type: none">• Adverse effects on local businesses and economy Economic Growth, Development, and Diversification (Section 5.4) <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• Concern that property values will decline• Critique of property values assessment Other Economic Concerns (Section 5.6) <ul style="list-style-type: none">• 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); <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• Light pollution from the site• Views and visual impact of the Project Agriculture and Ranching (Section 6.5) <ul style="list-style-type: none">• Agricultural Land Reserve (ALR)• Effects on ranchers and ranchlands• Water Licences Recreation (Section 6.6) <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• Critique of social assessment
Health	General (Section 7.1); <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• 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 (Knutstford, 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) <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• AQ data collection/monitoring stations and available baseline data• Critique of air quality modelling and calculations Health and Air Quality (Section 7.5) <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• Safety and quality of drinking water Country Foods (Section 7.7) <ul style="list-style-type: none">• Effects on country foods (including cattle, gardens, wild foods)• Critique of country foods assessment/assumptions Noise and Vibration (Section 7.8) <ul style="list-style-type: none">• Blast tests have not been conducted• Critique of noise and vibration studies Health and Noise/Light (Section 7.9) <ul style="list-style-type: none">• Noise may result in sleep disturbance and annoyance• Effects of light pollution on human health Other Health Risks and Concerns (Section 7.10) <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• Critique of Healthy Living assessment Community Health and Well-Being (Section 7.12) <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• St. Peter’s church and cemetery
Closure & Reclamation	Closure and Reclamation (Section 9.1) <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• 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 <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• Community benefit agreement / community investment• Concern about Malaric experience• Comparison to other projects <ul style="list-style-type: none">• Concern about interaction with TransMountain Pipeline• Comment about quality/completeness of the Application• Claims of “Zero Harm” and “No Significant Impact”