



MAJOR DEFICIENCIES IN THE
ENVIRONMENTAL ASSESSMENT
PROCESS FOR THE PROPOSED AJAX
MINE

Prepared by Kamloops Area Preservation Association



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1. Withholding of information by KGHM.

One of KGHM Ajax's public consultation objectives is "to share information between KGHM Ajax and the community and vice versa."¹ The Proponent also professes to "refer to the following sources for guidance on public consultation requirements for the Ajax Mine Project:

- *Core Values of Public Participation*²
- *Code of Ethics for Public Participation*³
- *Stakeholder Engagement Good Practice Handbook*⁴

One of the principles in the *Code of Ethics for Public Participation* is to encourage "the disclosure of all information relevant to the public's understanding and evaluation of a decision."

In the *Stakeholder Engagement Good Practice Handbook*, the following five good practice principles of disclosure are listed:

- Disclose early
- Disclose objective information
- Design disclosure to support consultation
- Provide meaningful information
- Ensure the accessibility of information⁵

One of the major issues in the Ajax assessment is the lack of disclosure by the Proponent of assay data for the project; in particular the data for none-ore toxic elements and toxic substances known to be in the ore (e.g. arsenic, asbestos, cadmium, chromium, lead, manganese, mercury, uranium), but also assay data for the target ores of copper and gold for drilling that has been done for 2013 and 2014. The data for the presence of toxic elements and substances must be considered essential to the scientific integrity of the Ajax assessment, and this data forms core scientific information necessary for determining environmental and health impacts. The lack of disclosure, and even the lack of early disclosure, of this key information creates the risk that key questions will not be identified early enough in the assessment process to ensure a comprehensive rigorous, and defensible assessment. This in turn raises the risk of the assessment being challenged on these grounds, which may result in a delay, or even termination of the project.

The *Handbook* provides the following commentary on situations where non-disclosure of information may be considered.

There will be situations in which disclosing certain types of information at sensitive stages in the project cycle might entail risks. It is understood, for example, that in the very early stages of project development, revealing your hand to your competitors about what you intend to do could pose serious business risks. Such factors will need to be considered in deciding what to disclose and when. Other reasons for non-disclosure might include: commercial confidentialities and proprietary information, information of a personal privacy, safety, or individual security nature; or situations where releasing information very early in the development of a project might unnecessarily raise public expectations, cause speculative behavior, or create unnecessary fears. However, considerations for non-disclosure need to be weighed against the need for stakeholder groups

to be informed in order to protect their interests. In general, experience shows that companies committed to transparency and accountability help promote the long-term profitability of their investments.

Of the reasons that have been listed in this commentary for non-disclosure, to our knowledge, only one, proprietary information, has been cited by the Proponent. This reason has been given to members of the public on more than one occasion. When members of the Kamloops Area Preservation Association asked that Appendix B of the 2012 Ajax Feasibility Study, which we understand includes information about deleterious substances in the Ajax deposit, be included as a document for the environmental assessment KGHM initially said that it would make this document available for public viewing in its Kamloops office. KGHM Ajax quickly reversed this decision and refused to disclose this information.⁶

This lack of disclosure of the assay data has had a negative effect on the ability of the assessment process to deliver a comprehensive and scientifically rigorous assessment. On May 10, 2012, at a meeting of the Health Sub-Working Group, an adjunct of the Technical Working Group, the Interior Health Authority (IHA) asked for the assay data as part of its review of the Proponent's *Dispersion Modelling Plan*. This Plan, prepared by Stantec Consulting Ltd. for the Proponent, delineates which substances that will be emitted from the mine will be studied for human health assessment. As the document states, "Stantecs (sic) Senior Toxicologist selected the substances to model from assay results provided by KAM."⁷

On September 12, 2012, Ralph Adams, an Air Quality Meteorologist for the BC Ministry of Environment, approved the *Final Detailed Dispersion Modelling Plan*. There is no evidence posted on the BC EAO website for the Ajax project indicating that the IHA approved this Plan, or whether Ralph Adams relied on geological and toxicological expertise to approve this plan.

Since KGHM Ajax has not stated which assay data was used by the Stantec toxicologist to determine substances of interest, and conversely rule out substances of interest, or released the said assay data, it is not possible to determine how this selection was made. What is known is that assay data from the *Summary Report on the 2007 and 2008 Abacus-New Gold Inc. Joint Venture Diamond Drill Program on the Ajax Property*,⁸ indicates the presence of significant levels of chromium and manganese, the presence of uranium for eight drill holes, and the presence of asbestos; yet all of these substances have been excluded from the Ajax assessment. Without the disclosure of all the assay data for the Ajax project, it is not possible to determine if the exclusion of these substances is justified.

If Ajax is approved and developed, and it turns out that there are significant levels of chromium in the Ajax deposit, the possibility exists that some of this chromium may be converted to a highly carcinogenic chromium compound known as hexavalent Chromium VI. A study published in 2013 in the *International Journal of Environmental Engineering and Management*, found that in the open pit mining of chromite in mines in India, some of the chromium was being converted to hexavalent Chromium VI by the process of lateralization, and contaminating the ground water.⁹

The disclosure does not apply only to geological data. The same reasoning for disclosure applies to the meteorological data and water quality and streamflow data. The Proponent has been

collecting meteorological data since 2006 and there is no good reason why this data shouldn't be made public to enable the EAO to conduct its due diligence and evaluate the reliability of the Proponent's proposed assessment approach, as well as to facilitate improvements to the Ajax project as early as possible in the design process.

As suggested by the lack of disclosure of all the baseline data held by KGHM Ajax, there is a risk that important issues will be overlooked in the environmental assessment, possibly leading to flaws in the project design, or even delays or outright rejection of the project. In turn, this could have serious financial repercussions on the Proponent and investors. Given the non-financially beneficial nature of the toxic elements in the Ajax deposit, there appears to be no financial reason for withholding the assay data for these toxic elements. As the International Finance Corporation's disclosure principles suggest, and as the IFC concludes: "In general, experience shows that companies committed to transparency and accountability help promote the long-term profitability of their investments."¹⁰

2. Failure to Ensure Accessibility to Reference Documents

As suggested by the disclosure principle of ensuring accessibility to information, it is important for reasons of fairness and transparency for the public to have easy access to the many reference documents that are cited in the AIR/EIS and associated documents. These reference documents consist of standards, guidelines, and methodologies that are used to determine impacts, and subsequent mitigation strategies or compensation.

Although many of these documents are available on-line, some are not. The Detailed Noise Modelling Plan for the Ajax project, for example, has references to eight such documents.¹¹ One of these documents is the *ISO 1996-2:2007. Acoustics – Description, measurement and assessment of environmental noise – Part 2: Determination of environmental noise levels*. This document appears to be only available from the ISO for a cost of 158 Swiss Francs.

If the public has to pay a large sum of money to obtain the documents upon which the Proponent will be making its case for project approval, this raises a question of fairness.

KAPA notes that the EAO's *Fairness and Service Code*, which was published in order to give the "public an understanding of what can be expected during a provincial environmental assessment" states that information and records relating to the environmental assessments will be available on the EAO website. The EAO has further committed that policies will be available on the EAO website.¹² KAPA believes this commitment extends to the documents upon which the Proponent will rely.

3. Assessment of the Cumulative Effects of Reasonably Foreseeable Future Projects or Activities

EAO Project Assessment Lead, Scott Bailey, stated at the June 24, 2014 CAG meeting that the Ajax assessment is only for the project that has been submitted to the EAO. As this statement

seems inconsistent with section 5.1.6 of the current AIR/EIS, KAPA seeks clarification of the EAO's position on whether cumulative effects are indeed part of the Ajax assessment.

In KAPA's view, cumulative effects are necessarily part of the assessment with reference to the following. Section (d) *Cumulative Environmental Effects*, of the *CEAA Background Information* document states that "The evaluation of potential cumulative environmental effects will focus on the interaction between the residual environmental effects of the Project, after mitigation measures are applied, and the environmental effects of other past, present or reasonably foreseeable future projects or activities."¹³ Section 19(a) of *CEAA 2012* requires cumulative effects assessment. Furthermore, the common law recognizes cumulative effects assessment as a normative component of environmental assessment under the *Environmental Assessment Act: West Moberly First Nations v. British Columbia (Minister of Energy and Mines)* 2014 BCSC 924 at para. 124.

As previously discussed, the withholding of assay data has the potential to impair the effectiveness of environmental assessment for the Ajax mine proposal. Similarly, the withholding of assay data for the exploration of adjacent and nearby potential ore bodies has the potential to impair the cumulative effects assessment.

The Proponent, and other mining companies, have nearby mining properties that could either be developed on their own merit or be enabled for mineral extraction in the reasonably foreseeable future by the development of the Ajax project. This is raising public concern that the reason why the Proponent's new mine plan involves relocating several proposed mine facilities slightly farther away from the city is because additional ore bodies have been discovered that are even closer to the city.

On August 2, 2013, KGHM Ajax issued a news release stating:

Our evaluation also included geologic surveys on the project area that identified possible ore bodies which have the potential to increase the project's copper and gold resources. We have begun conducting additional drilling and studies to evaluate the economic viability of the mineralized zones.¹⁴

On the same day, at a news conference, KGHM International officials, Yves Lacasse and Dan Ferriter, mentioned several times the possibility of new ore bodies in relation to the Ajax deposit. KAPA notes that during the news conference, KGHM indicated that it was evaluating mineral potential "inside of our current project footprint" which, at that time, was mostly within the City of Kamloops. Therefore, it would appear that a significant amount of drilling for the potentially new ore bodies is within the City of Kamloops.

In its fourth quarter report for 2013, KGHM Polska Miedź made the following statement:

Afton-Ajax project in Canada (KGHM Polska Miedź S.A. 80%, Abacus Mining and Exploration Corp. 20%) – exploration work continued, including geophysical research and a campaign of exploratory drilling on the adjacent areas of Rainbow and Ajax North. Further geological work, which will provide more precise knowledge of the initially identified ore potential, will be realised in 2014. Work also continued on the preparation of an alternate mine plan, including changing the

siting of certain mining facilities, which will enable both maximisation of the value of the Afton-Ajax project as well as reduce its impact on the environment.

Clearly in the Proponent's mind, the Rainbow and Ajax North areas are part of the new Ajax mine. It is reasonably foreseeable that they will be developed, and such development should be included in any effects assessment undertaken in relation to Ajax.

On February 28, 2014, KGHM Polska Miedź stated that "exploration work continued, including geophysical research and a campaign of exploratory drilling on the adjacent properties of Rainbow and Ajax North."¹⁵

Furthermore, Teck's inclusion of the Rainbow and Iron Mask deposits in a 2011 a Net Smelter Return royalty agreement with Abacus indicates that the probability of development is high, and reasonably foreseeable. Abacus' 2012 Ajax feasibility study reported as follows:

Pursuant to the Asset Purchase Agreement, Teck has retained a 1.5% NSR royalty with respect to each of the Rainbow and Iron Mask Properties that were purchased by Abacus from Teck and which comprise part of the Afton Ajax property.¹⁶

On May 29, 2014, Abacus Mining and Exploration Inc. issued a news release stating

A major work programme is planned for 2014 consisting of various permitting activities, detailed engineering work, metallurgical test work, optimization studies and exploration and condemnation drilling. The objective of the exploration drilling programme, estimated to comprise 13,500 metres, is to identify potentially economic mineral resources close to the Ajax mining complex for future resource definition, as well as to test several highly-prospective regional targets outside the Ajax area, which resources could add significant value to the project.¹⁷

The Ajax project is located only 2.0 km. from the nearest school, Pacific Way Elementary, and only 1.2 km. from the designated urban growth expansion area in the Kamloops Official Community Plan. If newly discovered ore bodies (e.g. Ajax North) or potential ore bodies that are located even closer to the city are developed, the impacts of mining on the City of Kamloops will be even greater.

One such potential ore body is the Galaxy deposit which is located only about 1.2 km. south-west (upwind) of the neighbourhood of Pine Valley. While the 2006 NI 43-101 Technical Report for this deposit states that "the size and grade of the Galaxy zone are insufficient to allow the deposit to be exploited as a stand-alone operation... There is potential, however, to develop the deposit in conjunction with other known deposits of similar grade nearby."¹⁸

In addition to the Galaxy deposit, other mineralized occurrences in the Ajax-Galaxy vicinity include: Kimberley, Python, Iron Mask, Big Onion, Iron Cap, Cliff, Rainbow, and Comet-Davenport.¹⁹ It is reasonable to expect that favourable drilling results would suggest further development work, thereby substantially increasing the likelihood of mine development. Therefore, it is not unreasonable that the assay data KGHM Ajax has for the potential ore bodies

it has announced should be released to enable the environmental assessment process to accurately consider the cumulative effects of the new Ajax mine.

The Galaxy deposit provides a good example of how the development of this deposit could be incorporated into the cumulative assessment. The Detailed Noise Modelling Plan for the Ajax project provides a methodological framework for predicting noise and vibration from the Ajax project on specified receptor locations. This framework is entirely computer model based, whereby assumed data is entered into computer models to generate expected noise and vibration levels. The same modelling could easily be done for the Galaxy deposit, and it is noted that several critical receptor locations for Ajax are located closer to the Galaxy deposit than to the Ajax deposit.

In addition, development of additional ore bodies as an extension of the Ajax project has implications for the capacity of the proposed waste rock and tailings facilities (e.g. increased size, additional waste rock and/or tailings facilities).

4. EAO interpretation of the relevant legislation, regulation and policies

On several occasions the Proponent has cited “proprietary information” for not disclosing assay data for the Ajax project and related exploratory drilling. At the May 10, 2012 Health Sub-Group meeting, the meeting minutes state that “the Proponent noted that, due to proprietary rights, the assay results would not be shared with working group members; however, if there is an interest in specific metals or certain elements, that information can be provided upon request.”²⁰

KAPA does not dispute KGHM Ajax’s ownership of the assay data. Disclosure, however, does not change the ownership status of this data. The timely disclosure of assay data is required by securities disclosure laws and regulations in Canada for mining companies that are publicly traded on Canadian securities exchanges, and for mining companies that intend to trade on these exchanges.²¹ KGHM’s efforts to withhold assay data from the environmental assessment process is reflected in the Public Consultation Plan that it prepared for the Ajax assessment, as required under the Section 11 Order. This Plan was accepted by the BC EAO and posted to its website on May 9, 2012. Section 6.6 of this plan states, “All technical information and reporting will be made available on the website, subject to where KGHM is legally able to do so.” KGHM cited the following ‘constraints’ to sharing information:

- Specifications under National Instrument 43-101 regarding investor privileged information;
- Security Exchange Commission dissemination rules;

A review of NI 43-101 standards and related guidelines documents and other securities commission disclosure rules indicate that such standards and guidelines are designed to encourage the dissemination of material information.

Perhaps even more troubling is the fact that KGHM Ajax neglected to refer to National Policy 51-201 *Disclosure Standards*, which was issued by the Ontario Securities Commission on July

12, 2002,²² and re-issued in 2013. Section 3.3 (f) of this Standard explicitly allows companies to selectively disclose information to government agencies as a *Necessary Course of Business*. Since the acquisition of an environmental assessment certificate from the EAO, and a similar approval from the federal government, is necessary for the Proponent to undertake the project, providing key material information such as assay data to government agencies, when requested by those agencies to do their work as part of the environmental assessment for these approvals is a necessary course of business.

NI 51-201, Section 4.4 (2) also provides guidance in what should be considered material information for mining companies:

As a guiding principle, if there is any doubt about whether particular information is material, we encourage companies to err on the side of materiality and release information publicly.

Applied to the Ajax proposal, this guiding principle strongly supports KAPA's position that all assay data —target ore and trace elements— is material information due to the close proximity of the Ajax deposit, and related potential deposits currently in the exploration stage, to the City of Kamloops. If the Ajax proposal was located 30 km. from the nearest community, the materiality of toxic trace elements such as arsenic, cadmium, chromium, mercury, lead and uranium may not be an issue. However, the close proximity of a population of approximately 100,000 people to the Ajax proposal makes the information about these trace elements *material information* as evidenced by the request by the Interior Health Authority for this information. The proposed construction of a tailings pond within the Peterson Creek watershed, and the clear potential for a breach per the recent Mount Polley disaster, also militates in favour of information about the elements in the tailings fines being material.

Also relevant is the interpretation of Section 8.6 of the Section 11 Order. The Ajax Project Assessment Lead maintains that he only has the authority to require additional information from the Proponent at the Application Stage. However, Section 8.6 resides in Part D of the Order, *Assessment Procedures – Pre-Application Stage*. A close reading of Section 8.6 indicates that there are no clauses that prevent the Project Assessment Lead from requiring the Proponent to disclose information, such as assay data, during the Pre-Application Stage. The EAO Code supports KAPA's request that the EAO act to require additional information now, stating:

The purpose of the pre-application stage is to ensure that when an application for an environmental assessment certificate is reviewed it contains the necessary information to allow the EAO to undertake its assessment and make recommendations to the Ministers making the decision.²³

The principle clause of Section 8.6 states “The Proponent may be required to provide information in addition to that presented in the application...” The subordinate clause, states: “...including information from studies identified in the Application which are completed after the Application is filed...” This clause does not restrict the Project Assessment Lead from asking for further information from the Proponent during the Pre-Application Stage. If the clause had said “including *only* information from studies identified in the Application,” it may be possible to argue that this would preclude the Project Assessment Lead from asking for further

information during the Pre-Application Stage. The final clause in Section 8.6, “within time limits set by the Project Assessment Lead,” clearly establishes no limitation on when the Project Assessment Lead can ask for further information during the Pre-Application Stage.

The proper application of Section 8.6 mandated the Project Assessment Lead to require the Proponent to provide assay data to the IHA when the IHA requested this data from the Proponent at the May 10, 2012 Health Sub-Group meeting, and the Proponent obstructed this request with a requirement that the request be in writing. At a June 24, 2014 Community Advisory Group meeting with the Project Assessment Lead, it was pointed out that he was in attendance at the Health Sub-Group meeting and that he had the power at that meeting to order the Proponent to release the assay data to the IHA. The Project Assessment Lead replied he did not require the information as “I don’t have the power to ask for that until it’s in the Application stage.” When it was subsequently pointed out that Section 8.6 refers to the Pre-Application Stage, the Project Assessment Lead cited “nuances of the regulations in the Act,” as explanation for why he did not require the Proponent to release the assay data to the IHA. With respect, we believe the Project Assessment Lead has misread the legislation. Section 11(2)(c)(i) of the *Environmental Assessment Act* clearly supports a wide discretion for the Project Assessment Lead to require information. Even if section 8.6 did preclude the Project Assessment Lead from requiring assay information in the pre-application phase, which is not conceded, the EAO always retained the general discretion – under section 13 of the *Environmental Assessment Act*- to vary its section 11 order in a manner that would allow it to require the provision of such information.

5. Failure of EAO to Specify Assay Data Requirements

In the submissions to the EAO and the CEAA during the public consultation periods, KAPA made a detailed submission regarding the need for assay data. It appears that this submission was largely ignored. For the record, the relevant section of this submission is provided below.

The elements for which detailed assay analysis are required (but are not limited to) are: aluminum; arsenic; cadmium; cobalt; chromium; iron; manganese; mercury; molybdenum; nickel; lead; radon; silica; strontium; uranium, vanadium; and yttrium.

In particular, due to the presence of chromium in the ore, the concentrations of **hexavalent Chromium [Cr (VI)]** must also be determined.

It is noted on page 10 of the 2009 Assessment Report for the Ajax Property, Section 3.2 Property Geology, that tremolite-actinolite is present. The proponent must provide information on the concentration of these minerals in the ore, waste rock, and tailings, and whether these minerals are found in fibrous form.

Information must be provided for the assay method (s) used for determining the concentration of each element, the confidence level for each assay method, the number of samples, the drill hole locations and directions, the core sections, the name (s) of the assay lab (s) that did the work, and the due diligence that was undertaken to ensure the validity of the assay results (i.e., independent analytical cross-checking). The most up to date 3-D geological model shall also be provided.

As stated earlier, due to the proximity of the mine to the City of Kamloops, the level of reliability of the assay information must be as high as possible in order to provide for the highest safeguards for the health of the residents.

It is noted that for many topics, the AIR/EIS and associated documents specify the types of models or the guidelines that should be used for describing and predicting impacts. But for perhaps the most important biophysical data of all —the composition of the rock to be blasted and crushed—no standards or guidelines are recommended. This absence of direction is in spite of the fact that different assay methods have different levels of confidence with regard to data accuracy.

In the case of the proposed Ajax mine, due to its close proximity to a major population centre, the required level of accuracy for the assay data should be as high as possible. Assay data of insufficient accuracy increases the risk that the health impacts will be insufficiently assessed, understood, or mitigated.

6. Failure of EAO to properly consider Health Agency concerns.

Government agency correspondence regarding health assessment issues that have been posted on the EAO website, or obtained through Freedom of Information requests suggest a disturbing tendency to not properly consider health impact issues.

IHA personnel who had been tasked with participating in the Ajax assessment wrote a letter dated June 21, 2012 and addressed to the EAO Project Assessment Lead, requesting that “Proponents should be obliged to provide detailed core constituent data from top to bottom of a proposed mine, added chemicals, tailings composition, details of water intake and output, and expected long term health effects prior to acceptance of a project for EAO review.” The letter stated further that “A policy of secrecy regarding toxic metals, radionuclides, and mining process chemicals is untenable and constitutes a potential health hazard to the public and a large waste of public funds for fundamentally incomplete reviews once a project has been accepted for environmental and health review by EA, EIA, HIA, and HRA.”

This letter was part of the comments from government agencies as specified in Sections 8.2-8.4 of the Section 11 Order that are to assist the Project Assessment Lead in determining the scope of the Application Information Requirements. The letter originated as a request by the EAO at the May 10, 2012 Health Sub-Working Group meeting. At this meeting, it was mentioned that the IHA was expecting comments from the BC Centre for Disease Control. The following excerpts from the minutes of the May 10, 2012 Health Sub-Working Group meeting clearly show that the EAO was expecting expert comments on health-related assessment issues, and that these comments would be used to revise the draft Application Information Requirements:

It was proposed that the deadline for feedback occur approximately one week after the meeting. Working group members requested an extension to the feedback deadline within the realm of 2-3 weeks. Interior Health was unable to confirm an exact timeline due to the request being made to the British Columbia Centre for Disease Control (BCCDC) to provide comment.

EAO noted that the next steps in the EA process for the proposed Project would include revision of the dAIR based on public and working group comments and review by the working group of the proponent's responses to comments on the dAIR.

Comments from the BCCDC were provided to the IHA in a May 25, 2012 letter, and presumably were incorporated in the June 21, 2012 letter from the IHA to the BC EAO. It is now apparent that the June 21, 2012 letter written by IHA Medical Health Officer, Dr. Peter Barss was received by the EAO after the AIR for old Ajax project were finalized.

Oddly, a letter written on June 19, 2012 by IHA Environmental Health Officer, Misty Palm was received by the BC EAO, but was not posted on the BC EAO website until June 27, 2013. Equally strangely, another letter written by Misty Palm to the EAO on March 12, 2013, was not posted until July 3, 2013. The March 12, 2013 letter contains references to the June 19, 2012 letter and a July 18, 2012 letter, both letters written by Misty Palm, and providing comments on the air and noise modelling plans—topics that are of very high interest to the citizens of Kamloops.

There is also a six page March 1, 2012 letter from Misty Palm to the BC EAO that was not posted on the BC EAO website until July 3, 2013.

With regard to the July 18, 2012 letter, it was stated that “Interior Health (IH) does not have adequate technical capacity to provide detailed comments on the study design and methodology.” The letter has also not been posted by the BC EAO, although it would have been aware of the letter because it was mentioned in the March 12, 2013 letter to the BC EAO. It should also be noted that the July 18, 2012 letter was retrieved through Freedom of Information.

What is clear from this confusing array of letters is that a large amount of technical information on human health concerns was it was not posted for public review until well after the second and last Pre-Application public comment period ended in March 2012. This does not accord with the EAO's guiding principle of transparency, including the commitment to post information and records relating to environmental assessments on the EAO website. Nor is it consistent with the EAO guiding principle of inclusiveness: parties cannot fairly participate when all pertinent information is not available.

Has the EAO compared the contents of the two IHA letters to determine whether any important comments were not included in the AIR? Now that the AIR is currently being revised due to the new mine plan, this provides ample opportunity to consider the comments made in the June 21, 2012 letter.

7. Failure to monitor the Proponent's Open House Activities

At the June 24, Community Advisory Group meeting, EAO Project Assessment Lead for the Ajax project, stated that he had not been to a KGHM Ajax *open house* meeting, and asked the CAG what it would take to improve them. It is probably the case that no other representatives from the EAO, or the CEAA, have attended any of the KGHM Ajax Open House meetings, even

though, in the case of the EAO, the Public Consultation Plan states that the “EAO will evaluate KGHM Ajax’s community consultation.”²⁴

KGHM’s open house meetings and the two “open mike” sessions KGHM has hosted have several major weaknesses.

First, the open house meetings have had an abundance of glossy photos and slide presentations but little informative material. Despite repeated public requests for the disclosure of assay information, to KAPA’s knowledge, this information has never been presented at any Open House meeting.

Second, attendees at the open house meetings have realized during post-open house discussions that many of the verbal answers given by the Proponent’s staff are contradictory.

Third, the open mike meetings have been characterized by limitations to the number of questions asked by individual attendees, thereby making it impossible in a public forum to pursue issues in detail. Also, there are no audio or audio-visual recordings of the answers given by the Proponent, and no written transcript, thereby providing no objective record of the proceedings.

8. Failure of both federal and provincial governments to ensure a fair and transparent process.

The failure by the federal and provincial governments to establish an expert review panel with public hearings for the Ajax proposal in the face of strong public support for a review panel and requests by the City of Kamloops and the Stk’emlupsemc te Secwepemc Nation raises questions about the fairness and transparency of the Ajax environmental assessment process. The stated intention of the EAO not to hold a public comment period for the revised Ajax mine plan raises similar questions.

Scott Bailey, Project Assessment Lead, informed the Community Advisory Group on June 24, 2014 that he couldn’t tell the CAG a lot about what the Proponent is planning to do. A few minutes later he told the CAG that the Technical Working Group is “poring over the information from the company about what the new AIR should look like.” Either Mr. Bailey meant that he knew a lot about the new mine plan and wasn’t going to share it with the CAG, and the general public, or he meant that the information from the Proponent on the new mine plan is skimpy in detail. Both conclusions raise questions about lack of fairness and disregard for due process. The Section 11 Order and the AIR/EIS are meant to be based upon an accurate Project Description.

Mr. Bailey defends his intention not to hold a public comment period on the grounds that the new mine plan simply involves relocation of mine processing facilities, and that the study requirements do not need to change because the Proponent can satisfy the information requirements by simply providing the same types of information required by the existing AIR/EIS for the new locations.

On the contrary, it is KAPA's position that a Table of Contents is merely a means of organizing topics into general subject areas. An environmental assessment requires a sufficient level of detail that is rigorous and comprehensive to be a credible assessment. In reviewing the AIR and related study documents, there is an inconsistency in the level of detail required between many subject areas. For topics where information requirements are general, the defense has been that if more detail is required, this can be covered in the permitting stage. This appears to be a convenient excuse for not adequately addressing certain contentious issues in the environmental assessment. Further, it is our understanding that the Proponent intends to proceed under the Concurrent Approval process. This heightens the importance of ensuring material information is available for the assessment as it is the one opportunity the regulators will have to fully consider the risks and benefits associated with the Ajax mine.

For example, Section 3.8.1, Waste Rock Storage Facilities states that information on design, site characteristics, construction, monitoring, geohazards, and waste rock characteristics, and details of the mitigation measures used to reduce the aesthetic impact during operation, decommissioning and closure and post-closure" will be provided. However, there is no mention of a risk and impact assessment of possible waste rock failures. Given the proximity to Peterson Creek and the fact that Peterson Creek drains through downtown Kamloops, it is unacceptable that such an important issue has been over-looked.

The lack of a meteorological station that would accurately reflect weather conditions in the immediate mine area is another contentious issue. Dr. Douw Steyn recommended the establishment of a meteorological station on Coal Hill to provide more accurate on-site weather data than is being provided by the station the proponent currently operates in the lee of Sugarloaf Hill. According to the *BC Mine Waste Rock Pile Research Committee Interim Guidelines*, which the Proponent has stated it will reference,²⁵ "It is generally good practise to establish a climatological station at the mine site."²⁶ If the governments of British Columbia and Canada are as serious about wanting a science-based environmental assessment as they say they are, why has the Proponent not been directed to establish at least one station within the mine development area?

9. Failure to Provide a Rationale for Rejected Value Components

In a letter from the Community Advisory Group to the BC EAO, dated November 16, 2012, several issues regarding the Ajax assessment were presented. Below is part of the Project Assessment Lead's December 19, 2012 reply, which did not provide a rationale for rejecting certain valued components:

For those topics related to the EA, I have forwarded your comments to the appropriate provincial and federal agencies represented on the EA Working Group for their information and input. Topics related to the proposed Project or Proponent (e.g. presence of measurable uranium, employment and wage data; project feasibility; insurance and corporate structure), have been shared with the Proponent. The Proponent will determine how or if they wish to respond. For those comments pertaining to the EA process generally, we would be interested to hear from the group what topics are of most interest/priority so we can include these in the agenda for future CAG meetings.

One of the issues the CAG raised was the absence of soil contamination studies in the AIR/EIS. According to Environment Canada's *Code of Practice for Metals Mines*:

Mining activity may also contaminate terrestrial plants. Metals may be transported into terrestrial ecosystems adjacent to mine sites as a result of releases of airborne particulate matter and seepage of groundwater or surface water.

In some cases, the uptake of contaminants from the soil in mining areas can lead to stressed vegetation. In such cases, the vegetation could be stunted or dwarfed.²⁷

Despite this awareness of the issue of soil contamination from open pit mining, Section 6.2 of the Ajax AIR/EIS, *Geology, Landforms and Soils*, only mentions the "Potential effects of the project on slope stability including on the Aberdeen Hills area, soil erosion, and existing geohazards will be assessed." In the *Summary of the Draft Human Health and Ecological Risk Assessment for the Ajax Mine Project*, the issue of soil contamination is confined to 25 surface soil samples from the mine area and 10 from the residential area, and no soil samples for grasslands or crop land.²⁸

The November 2012 CAG letter also asked that the following species be added to the Valued Components for study purposes, but all were excluded from the AIR/EIS:

Castor Canadensis (beaver)
Ondatra zibethicus (muskrat)
Ursus americanus (black bear)
Puma concolor (cougar)

The exclusion of beaver is particularly mystifying given that beaver have created many of the ponds along the Peterson Creek water course, and these ponds play a major role in supporting other species in the area.

The visual impacts of blast plumes is another issue raised in the November 2012 CAG letter that receives scant attention in the AIR/EIS. The only reference to the visual impacts of blast plumes is in Section 10.4.4.2 *Assessment of Vibration and Noise from Daily Blasting Activities*, where it is stated that "Visual and audio records of the blasts will be provided, as available."

Conspicuously absent from the AIR/EIS are pollinators as a Valued Component. Butterflies make the list as a species to be studied, but the rationale for doing so is not for their role as pollinators. Soil contamination, air quality contamination from mine emissions, use of herbicides to control "weeds", and a reduction in vegetation diversification by mine development, will all contribute to negative impacts on pollinators.

10. Risk/Benefit Analysis, Mitigation, and Compensation Costs

During the public comment periods, several submissions were made asking that the financial feasibility of the Ajax project be assessed. These requests were dismissed as being out of scope. The EAO now has the chance to rectify that dismissal, which KAPA regards as a reviewable error, for the reasons listed below. First, the issue of compensation is in scope, as compensation is a mitigation measure pursuant to the *Canadian Environmental Assessment Act, 2012* S.C. 2012 c. 19, s. 52 at Section 2(1). Second, any reasonable and defensible justification analysis must include a consideration of whether or not the subject project is financially feasible, and whether the Proponent is able to resource mitigation and closure obligations.²⁹ If significant adverse effects are found, section 52(2) of CEAA 2012 will require that Cabinet consider whether such effects are justified. Section 17(3)(b) of the *Environmental Assessment Act* also provides ministers with the discretion to consider “any other matters that they consider relevant to the public interest in making their decision on the application.” The EAO Code notes that the EAO will consider whether any significant adverse effects “may be justified in the circumstances, given the benefits and opportunities that the proposed project is expected to provide.”³⁰ Third, it would not be reasonable for the EAO, the provincial Ministers, the federal decision-maker, nor the federal Cabinet to consider the detailed information regarding project benefits required by section 2.7 of the AIR/EIS (i.e. direct and indirect employment estimates, contractor supply services estimates and estimated annual government revenues) without any analysis of whether the Proponent is in fact financially capable of delivering those benefits.

The ability of the Proponent to pay compensation or carry out mitigation measures is a major issue for a project that has the potential to cause hundreds of millions of damage to property values alone. The shifting of mine processing facilities, particularly the tailings facility, into the Peterson Creek watershed, with the final portion of the creek draining through downtown Kamloops, has increased the potential liability of the project.

The potential liability of the proposed tailings facility alone is a case in point. The impoundment structure for this facility will be approximately 139 metres in height upon completion. In comparison, only three BC Hydro dams are higher than this. The 2012 Province of British Columbia *Dam Safety Review Guidelines* (Version 3) require reports on such matters as consequence classification, dam safety analysis, hazards and failure modes analysis, emergency preparedness, and public safety and security. A review of the *BC Dam Failure Consequences Classification Conversion Table*³¹ suggests that a 139 metre high dam located in the Peterson Creek watershed would receive an ‘Extreme’ risk classification, which is the highest level of risk in the classification table due to the facts that a catastrophic dam failure would imperil the lives of over 100 hundred residents downstream, and would likely cause over \$100 million in damage to infrastructure (e.g. the Canadian Pacific Railway mainline), and to public, commercial, and residential properties. The catastrophic failure on August 4, 2014 of the Mount Polley tailings facility, which was engineered in the 1990s is an example of what can go wrong with engineered facilities.

Determining the financial ability of mining companies to undertake mitigation and compensation measures during the construction and operation of the mine, and to undertake mine closure costs, is an issue that was addressed in *Pacific Booker Minerals Inc. v. British Columbia (Minister of the Environment)*) 2013 BCSC 2258. The petitioner argued that using “risk/benefit” analysis to

assess the financial ability of the Proponent to fund mitigation and compensation costs was not legally part of the assessment process. Justice Affleck disagreed.

I view the entire environmental assessment process, and the decision-making role of the ministers following receipt of a report, along with the executive director's recommendations, as a "risk/benefit" analysis. The ultimate task of the ministers was to make a decision about the certificate after taking into account the technical analysis of environmental effects conducted by the EAO; the views of those affected by the project, prominent among which was the objections of First Nations; the risk of long term environmental damage and very substantial remediation costs if mitigation measures were not entirely successful, as well as the benefits to the people of this province of an employment and wealth generating project. They were then to weigh the risks against the benefits and decide whether it was in the public interest that the risks were worth taking. It should not be a surprise that the executive director recommended a "risk/benefit" analysis.³²

Risk/benefit analysis is methodologically similar to cost/benefit analysis in the sense that risk often transforms into costs for those affected by a project. With risk/benefit analysis being recognized by the BC Supreme Court as being the essence of environmental assessment, the critical question for the Ajax project is how various stakeholders are negatively or positively affected by the project. It is expected that the Proponent will not ignore accounting for those who will benefit from the project, while doing as little as possible to assess costs to those negatively affected.

The assessment of project impacts on different social groups is either called *distributional impact assessment*, or *environmental justice impact assessment*. In the United States, it is now an Executive Order that federal government regulatory changes must include an assessment of distributional impacts.³³

In Canada, something analogous to distributional impact assessment is part of the *Canadian Environmental Assessment Act* for the assessment of the environmental effects of designated projects (such as the Ajax mine proposal) on the health and socio-economic conditions, traditional land use, and cultural and physical heritage of aboriginal peoples.³⁴

Children are a societal group that prompts the need to conduct a distributional impact assessment for the Ajax project, given the higher vulnerability children have to toxic substances. As a minimum, the following guidelines and technical documents should be required references as part of a distributional impact assessment for the Ajax project:

- *A Framework for Assessing Health Risks of Environmental Exposures to Children* (U.S. EPA 2006a);
- *Cancer Guidelines* (U.S. EPA 2005a);
- *Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens* (U.S. EPA 2005);
- *Child-Specific Exposures Handbook* (U.S. EPA 2008b)
- *Highlights of the Child-Specific Exposure Factors Handbook* (U.S. EPA 2009a)

•*Guidance on Selecting Age Groups for Monitoring and Assessing Childhood Exposures to Environmental Contaminants* (U.S. EPA 2005c).

Other societal groups that requires specific health impact assessment for the Ajax project are those with Chronic Obstructive Pulmonary Disease, as well as people with high blood pressure.

For non-health related impacts, additional stakeholder groups need to be identified for risk assessment. For example, those residing in the dust fall-out zone from the mine or in the noise plume of the mine may suffer serious losses in property values. Another example are water license holders on Peterson Creek who may experience a decline in water quantity and quality due to the mine.

Costs arising from a mine that are borne by those other than the mine owners are called negative externalities. If these costs are not paid by the mine, this becomes a subsidy to the mine. Such subsidies result in market inefficiencies, and in the case of mining puts mine projects with few or no externalities at an economic disadvantage. To ensure that the Ajax project is not unduly interfering with market place efficiency, KAPA submitted a list of questions to the EAO in November 2012 regarding the financial capability of the Proponent to meet any external cost obligations if they arise. These questions, which are listed below, were ignored by the EAO, even though they were largely based on similar questions the BC Government asked the proponent of the Northern Gateway Pipeline proposal. We trust that in light of the Mount Polley disaster, the EAO will take the opportunity provided by the new Ajax proposal to rectify its earlier error, by including in the new or revised AIR/EIS sections that address the following questions.

1. What types of insurance coverage will KGHM Ajax have for the construction and operational phases of the project?
2. What types of claims will be covered under the various policies KHGM Ajax is expected to have?
3. Will KGHM Ajax have insurance coverage for pollution legal liability?
4. If pollution legal liability is covered under the insurance policies KGHM Ajax will have in place, is it possible that the policy could potentially be exhausted by other types of claim in any given year?
5. In the Ajax Feasibility Study (page 21-13), it is noted that \$1.2 million US\$ has been budgeted under G&A expenses. Has KGHM Ajax determined its insurance coverage limits?
6. During the Northern Gateway Pipeline Hearing, an Enbridge representative agreed that it would be a good idea for his company to get a preliminary indication of insurance coverage. Has the insurance market been approached by KGHM Ajax for quotes for insurance coverage? Has KGHM Ajax obtained any information regarding insurance coverage so that it can do a preliminary analysis of matching its risks to its insurance needs?
7. Would such risk analysis be provided to potential lenders and investors for the project?
8. Has a preliminary risk analysis of the mine on the operation of the Trans Mountain Pipeline been undertaken yet?

9. Has Kinder Morgan been contacted yet to provide KGHM Ajax with a risk assessment of the operation of the mine on the Trans Mountain Pipeline?
10. Has such an assessment of the mine risk on the pipeline been done?
11. What are the risk characteristics (e.g., probability of incidence, cost of each incidence?)
12. Has KGHM Ajax done any cost estimates of possible risk events (e.g., damage to Trans Mountain Pipeline; blockage of Peterson Creek by slide activity; structural damage from blasting, earthquake activity)?
13. What risks that KGHM Ajax faces are insurable, and what risks are not insurable?
14. If a property owner is claiming damage due to blasting, or excessive dust, would the claimant submit their claim to KGHM Ajax or the insurance company, or government?
15. If the cost of an event that is attributable to KGHM Ajax (e.g., damage to the Trans Mountain Pipeline that causes a major oil spill), exceeds the insurance coverage of KGHM Ajax, would the parent Polish company, KGHM, provide financial coverage to cover the deficit?
16. What is the corporate structure of KGHM's holdings in Canada?
17. Will KGHM Polska Miedz serve as a guarantor if KGHM Ajax does not have adequate insurance coverage in the event of an incident that exceeds the costs of KGHM Ajax's insurance coverage?
19. The bonding requirements by the B.C. Government for mining developments appear to cover only reclamation costs. Is KGHM Ajax willing to enter into funding arrangements through the federal and provincial governments for other than reclamation costs arising from the operation of the Ajax mine?

For the Ajax project, this determination should be based on an analysis of up-to-date and accurate costs (e.g. capital costs, wages and electricity costs) and cash flow estimates, which were outlined in the 2012 Ajax Feasibility Study.

¹ *Proposed Ajax Mine Project Public Consultation Plan*, May 9, 2012, p. 4.

² International Association for Public Participation

³ Ibid.

⁴ International Finance Corporation

⁵ International Finance Corporation, 2007, *Stakeholder Engagement Good Practice Handbook*, pp. 28-29.

⁶ The Feasibility Study (p 13-28) states that "The complete assay results of the copper concentrate are included in Appendix B. The Feasibility Study also indicates that further assay data is available in *Feasibility Metallurgical Testing Ajax Project Report No. KM2688*.

⁷ Stantec Consulting Ltd., May 6, 2013, *Detailed Dispersion Modelling Plan*, p. 2-10.

⁸ Ajax 2012 Feasibility Study, p. 13-1.

⁹ Haripriya, Mishra and Himanshu Bhusan Sahu, *Environmental Scenario of Chromite Mining at Sukinda Valley – a Review*, International Journal of Environmental Engineering and Management, Volume 4, No. 4 (2013), pp. 287-292.

¹⁰ *Supra*, IFC, p. 30.

¹¹ Stantec, April 29, 2012, *A Detailed Noise Modelling Plan for the Ajax Project (Draft)*, p. 8-1.

¹² *Supra* note 1 at pp. 2 and 9.

¹³ Canadian Environmental Assessment Agency, Revised August 2011, *Background Information for the Initial Federal Public Comment Period on the Comprehensive Study pursuant to the Canadian Environmental Assessment Act of the Ajax Mine Project, Kamloops, British Columbia*, CEAA Registry Reference Number: 11-03-62225; File Number: 4302-0072, p. 12.

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- ¹⁴ <http://www.ajaxmine.ca/blog?year=2013&month=8>
- ¹⁵ KGHM Polska Miedź S.A., *Consolidated quarterly report QSr 4/2013*, p.24
- ¹⁶ Abacus, Ajax Copper/Gold Project – Feasibility Study, January 6, 2012 at p. 4-7.
- ¹⁷ Abacus Mining and Exploration Inc., SEDAR
- ¹⁸ Discovery-Corp Enterprises Inc., July 25, 2006, *National Instrument NI 43-101 Technical Report on the Galaxy Property located in the Afton Area*, p. 1.
- ¹⁹ Discovery-Corp Enterprises Inc., October 15, 2013, *National Instrument NI 43-101 Technical Report Galaxy Copper-Gold Project*, p. 16.
- ²⁰ The Kamloops Area Preservation Association sent the IHA a letter asking if this request had been made to KGHM Ajax, but in a written response the IHA refused to disclose whether or not this request had been made.
- ²¹ Hogan, Gregory, and Alexander Pizale, February 7, 2014, *National Instrument 43-101: What Investors Need to Know about Technical Reports*. <http://www.casselsbrock.com/CBNewsletter>
- ²² Ontario Securities Commission, (2002) 25 OSCB 4492, National Policy 51-201 *Disclosure Standards*
- ²³ EAO Code at 5.
- ²⁴ *Proposed Ajax Mine Project: Public Consultation Plan*, May 9, 2012, Submitted to EAO under Section 11 Order by KGHM Ajax Mining Inc., p. 14.
- ²⁵ AIR/EIS, p. 29
- ²⁶ *BC The BC Mine Waste Rock Pile Research Committee Interim Guidelines*, p. 23.
- ²⁷ <https://www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&n=CBE3CD59-1&offset=5>
- ²⁸ Bryan Leece, Stantec, no date, *Summary of the Draft Human Health and Ecological Risk Assessment for the Proposed Ajax Mine*, p. 25.
- ²⁹ *Pacific Booker Minerals Inc. v. British Columbia (Environment)*, 2013 BCSC 2258 at 41.
- ³⁰ EAO Code at 7.
- ³¹ *BC Regulation 163/2011*
- ³² *Pacific Booker Minerals Inc. v. British Columbia (Minister of the Environment)*, 2013 BCSC 2258 at para. 126.
- ³³ United States Government, January 18, 2011, *Improving Regulation and Regulatory Review*, Executive Order 13563, Federal Register, Volume 76, No.14, Section 1 (b) (3), p. 3821.