

# Pierce Lefebvre Consulting Comments on:

Merged dAIR Rev C and D Agency Tracking Table\_07Sept 2012

Comment #	PLC Comments	PLC Rationale
C172	xEAO TO FOLLOW UP	PLC has previously suggested removing the words "Community Health" from the Community Health and Well-being VC, to keep a clear distinction between the Community Well-being and Human Health VCs. Our concern is not only to avoid the type of confusion expressed in this comment by Health Canada, but also to keep the Community Well-being section focused on issues such as community capacity, sustainability, resilience, cohesion, social interaction and governance.
D93	Proponent to change response, but no change to dAIR required: The proponent must provide a better response in the tracking table (typically to be more responsive to the question).	Baseline information 'sufficient to delineate the pathway of effects' may not be sufficient to determine the likely significance of effects.
D94	Proponent to change response, but no change to dAIR required: The proponent must provide a better response in the tracking table (typically to be more responsive to the question).	Proponent should indicate that assessment of potential effects of the power line on private property value will be included under the proposed "Property Value" VC. This issue can be very controversial, for example in the case of the BC Hydro Vancouver Island Transmission Reinforcement Project reviewed by BCEAO.
D95	Proponent to change response, but no change to dAIR required: The proponent must provide a better response in the tracking table (typically to be more responsive to the question).	Sept. 26, 2012 memorandum from InterGroup to EAO indicates that Property Value will be a separate VC, and that housing issues such as availability and affordability will be addressed under the VC called "Infrastructure, Public Facilities and Services". There will be no "Section 7.7 Housing"
D96	Proponent to change response, but no change to dAIR required: The proponent must provide a better response in the tracking table (typically to be more responsive to the question).	Proponent should refer to information (models, maps etc.) that will be included in the Application.

Comment #	PLC Comments	PLC Rationale
D97	Proponent to change response, but no change to dAIR required: The proponent must provide a better response in the tracking table (typically to be more responsive to the question).	Response to Comment C24 regarding potential power line health effects should be repeated here.
D98	Proponent to change response, but no change to dAIR required: The proponent must provide a better response in the tracking table (typically to be more responsive to the question).	Proponent should not imply that the Traffic Impact Study will be limited to the Lac Le Jeune Road
D99	Proponent to change response, but no change to dAIR required: The proponent must provide a better response in the tracking table (typically to be more responsive to the question).	Assessment of the potential effects of the Project on the existing Kinder Morgan pipeline and any expansion plans should be included under the "Land and Resource Use" VC and/or the "Infrastructure, Public Facilities and Services" VC. The Kinder Morgan pipeline expansion should also be considered as part of the cumulative effects assessment, particularly with regard to Jacko Lake.
D91	Proponent to change dAIR: The proponent must change the response tracking table and corresponding section(s) in dAIR to address comments made.	Sept. 26, 2012 memorandum from InterGroup to EAO indicates that Property Value will be a separate VC, and that housing issues such as availability and affordability will be addressed under the VC called "Infrastructure, Public Facilities and Services".
D92	Proponent to change dAIR: The proponent must change the response tracking table and corresponding section(s) in dAIR to address comments made.	Sept. 26, 2012 memorandum from InterGroup to EAO indicates that Property Value will be a separate VC, and that housing issues such as availability and affordability will be addressed under the VC called "Infrastructure, Public Facilities and Services". The "Cost of Living" VC will be dropped and any potential concerns incorporated into other sections as required.

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*KGHM Ajax Mine  
Summary of Comments and Recommendations  
For Social and Economic Analysis*

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*Preliminary Draft Report – September 10<sup>th</sup>, 2012*

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*Presented to the BC Environmental Assessment Office (EAO)*

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# 1 Introduction

The main purpose of this work is to provide a third party review of the social and economic aspects of the Environmental Assessment (EA) and support the BC EAO in their review of the EA documents for the proposed Ajax Mine Project in/near Kamloops BC.

The objectives of this phase of the project are to:

- review and comment on the proponent's draft Application Information Requirements (AIR)/ Environmental Impact Statement (EIS) Guidelines (January 6<sup>th</sup>, 2012) and subsequent changes suggested by the proponent in a July 3<sup>rd</sup>, 2012 letter to Lindsay McDonough; and
- comment on the proponent's responses to public comments in the Tracking Tables.

Pierce Lefebvre Consulting (PLC) has reviewed:

- proponent's draft AIR/EIS Guidelines - Revision D (January 6<sup>th</sup>, 2012);
- Consolidated Tracking Table prepared by the BC EAO;
- Draft Summary of Tracking Table Issues prepared by proponent (June 27, 2012); and
- July 3<sup>rd</sup> letter from proponent to Lindsay McDonough of the BC EAO.

## 2 PLC Review of Proponent's Draft AIR/ EIS Guidelines

PLC comments on the proponent's draft AIR are organized as follows:

- Valued Components
- Proposed Studies

### 2.1 Valued Components

The proponent's draft AIR suggests an initial listing of the Valued Components (VCs) that are likely to be most relevant to the Project.

PLC has reviewed the list of VCs suggested by the proponent and recommends several changes. These are summarized below and in Appendix 1. Also listed in Appendix 1 are some of the effects pathways by which the project is likely to influence each social and economic VC, and some of the rationale for the recommendations.

PLC recommends adding the following as separate VCs:

- **Government Revenues:** The EAO AIR Template (BC EAO. 2010) requests that the proponent describe expected project benefits in the Application including expected effects on government revenues. The proponent has indicated its intent to include government revenues in the Project Benefits description. In order to inform the Project Benefits description, we suggest the proponent include a specific VC for government revenues complete with methodology description.
- **Gross Domestic Product (GDP):** The EAO AIR Template (BC EAO. 2010) requests that the proponent describe expected project benefits in the Application and refers to the

BC Stats Input-Output model as a source of employment and GDP effects estimates. In order to inform the Project Benefits description, we suggest the proponent include a specific VC for GDP effects complete with methodology description.

- **Property Values:** PLC suggests an analysis of property values effects as a separate VC to enable assessment of effects on all property types including residential, commercial, industrial, agricultural and institutional. The draft AIR includes discussions of residential property values as part of the Housing VC. PLC recommends that the Housing VC be renamed Housing and Accommodation and focus primarily on potential accommodation options for construction and operations workers, and any displacement of current residents that may result.

An alternative to adding these as separate VCs may be to add them as sub-components to another economic VC, for example, Property Values could be part of Land and Resource Use.

PLC has the following recommendations for the other VCs:

- **Community Well-Being:** The Community Health and Well-Being VC should be renamed Community Well-Being, and any health related discussion be included as part of Health Effects.
- **Cost of Living** should not be a separate VC and any cost-of-living concerns should be incorporated as part of Community Well-Being or another economic VC. The KGHM/Ajax list of public consultation issues (page 8 of KGHM Ajax Response Summary document dated June 27, 2012) indicates that cost of living is not a major public concern.
- **Culture** should not be a separate VC. Aboriginal culture should be incorporated in archeology impacts and aboriginal community interests/ Traditional Use studies. Community image and branding can be incorporated in Community Well-Being or Economic Diversification. Effects on "way of life" for say farmers/ranchers can be incorporated in Community Well-Being.
- **Infrastructure and Transportation:** The VC on infrastructure has been expanded to include transportation, and should address all modes of transportation including project effects on air transport.
- **Dark Skies & Shading** could be included as part of visual impact/ aesthetic features.

PLC also has the following comments:

- **Jacko Lake** has been identified in the draft AIR as a separate VC. It is unusual to have a geographic feature assessed as a separate VC rather than assessing the feature's contribution to environmental services (VCs) such as fish habitat and recreation. Determining significance of any adverse effects may be more difficult with this structure. (The BC EAO defines Valued Components (VCs) as "components (environmental, economic, social, heritage or health) that are considered important by the proponent, public, First Nations, scientists and government agencies involved in the assessment process." From a social and economic standpoint, VCs are indicators of economic health and social well-being. (BC EAO Template. 2010))
- **Outdoor Recreation** in the draft AIR is included as part of **Land and Resource Uses**

and will be discussed as part of the effects on **Jacko Lake**. The potential project effects on outdoor recreation opportunities are an important public concern not only in respect of effects on Jacko Lake activities, but also effects on **Inks Lake** activities, as well as hiking, bicycling, skiing and other recreation activities. The proponent should consider **Outdoor Recreation** as a separate VC.

- The draft AIR mentions that **Land and Resource Uses** will focus on if, and/or how the project fits within community and regional land use plans, and how the project footprint conflicts with other resource users. The draft AIR should make it clearer that consideration of the Land and Resource Uses VC will include a review of the Kamloops OCP and associated neighbourhood plans and an assessment of the project on city growth plans (as is indicated in the above mentioned July 3<sup>rd</sup> letter).

It is the opinion of PLC that all the social and economic VCs being suggested in the draft AIR appear to be assessable to varying degrees with the understanding that some assessments would be more qualitative than quantitative.

## **2.2 Proposed Studies**

PLC has reviewed the draft AIR and has the following comments and recommendations regarding the proposed studies for the social and economic effects assessments.

- As demonstrated on the effects pathways in Appendix 1, several of the social and economic VC effects assessments will be contingent on findings of other studies. For example, the study of effects on property values will depend on the noise, vibration, dust, etc. assessments and the ability to mitigate any adverse effects.
- The adequacy of the proposed studies assumes that the proponent will include full assessment of all VCs (effects, mitigation, residual effects, cumulative effects, significance).
- The adequacy of the proposed studies assumes that the determination of significance will include risk assessments and consider uncertainty when considering probability (the draft AIR specifies that assessments of significance will consider magnitude, geographic extent, duration and frequency, reversibility, context and probability).
- The draft AIR proposes boundaries for the LSA and RSA for social and economic values (map 7.1-1) but does not provide a rationale or define those boundaries in terms of administrative jurisdictions for example, which municipalities are included, what Census Divisions, etc.
- The draft AIR does not make any references to applying the **BC Input-Output model** to this project. The BC EAO Template (BC EAO. 2010) suggests the BC Input-Output model as a potential source of data to assess GDP and government revenue project effects from construction and operations.
- PLC makes the following comments on the assessment of project effects on **Property Values**:
  - The proponent indicates the assessment will provide “a discussion of property values” in Aberdeen and Pine Valley residential areas of Kamloops.
  - PLC recommends the effects assessment on property value should include expected positive influences (e.g. workers moving into areas, improved road

access) and negative influences (e.g. noise, dust, visuals, increased traffic on nearby roads).

- The assessment may include mitigation strategies (e.g. monitoring and adaptive management) to help minimize effects on properties (dust, noise, traffic, etc.).
- The assessment should not be limited to residential, but should also include effects on commercial, industrial, agricultural and institutional properties.

### 3 PLC Review of Proponent's Responses in Comment Tracking Tables

PLC has reviewed the proponents' responses to socio-economic questions arising from the public review of the draft AIR and commented on each of those responses in the tracking tables.

This section summarizes some of the major issues discussed in the Tracking Table, and makes specific recommendations to the proponent regarding those issues.

#### **Proximity to Urban Areas**

In spite of a history of mining activity in this area, and on a substantial portion of the proposed project footprint, proximity to the Kamloops urban environment is likely to present socio-economic issues related to the mining/urban interface.

In general, in its effects assessment, the proponent needs to recognize the social environment in which it will be operating. The proposed mine is near a highly developed area, which results in benefits such as availability of a skilled workforce and proximity to existing roads and infrastructure, but proximity to Kamloops will likely result in the need for mitigation and monitoring strategies to minimize any potential significant effects on specific social and economic VCs such as property values, recreation values, and community well-being.

PLC suggests that the proponent change its responses to several public comments to indicate recognition of the Project's unusual proximity to urban areas and consequently, the many types of sensitive receptors.

#### **Land Use Planning**

There are many tracking table comments relating to City of Kamloops expansion in the Aberdeen area. In its Draft Summary of Issues in the Tracking Table and its July 3<sup>rd</sup> letter outlining proposed changes to the draft AIR, the proponent commits to describing the Kamloops OCP in relation to the project and to assessing the effects of the project on the ability of the City of Kamloops to expand.

The proponent should specifically acknowledge and refer to the Aberdeen Area Plan as part of the Kamloops OCP.

#### **Property Values**

The public comments on the draft AIR highlight public concerns related to the potential effects on property values in the Aberdeen, Pineview, Knutsford and other neighbourhoods.

Potential effects on property values are contingent on the results of separate studies on other VCs that may have an effect on property values. PLC suggests that the proponent identify potential effects pathways (e.g. dust, noise, vibration, lighting, aesthetics, public health and



groundwater) that may influence property values, and develop mitigation and monitoring strategies (e.g. pre and post strategies) for those pathways to understand and minimize potential effects on property values.

### **Building Structure Assessments**

Project related effects of blasting and hydrology changes on building structures are a concern often expressed in the public comments on the draft AIR.

In some of the responses to those comments, the proponent suggests the possibility of pre-development structural assessments if blasting and hydrology studies suggest properties may be at risk. PLC suggests that the proponent identify potential effects pathways (e.g. blasting and hydrology changes) that may influence building structures, and develop mitigation and monitoring strategies (e.g. pre and post strategies) for those pathways to minimize effects on building structures.

(See issue 180 – submission 73, Issue 248, submission 86, and Issue 828, submission 246; Also, full test blast: good answers given to issues 928, 929 and 930 of submission 257).

### **Models and Maps**

The public has requested better maps and 3-D models of the proposed mine development. These are requested as part of the assessment of social and economic VCs including property values, land and resource uses and visual/ aesthetics values. Some of these comments may be outdated, but there may still be a need for the proponent to develop better visual aids to assist with the public review.

### **Community Image**

The public has expressed significant concern relating to potential project effects on the community image, in part from health effects concerns but also as a result of aesthetics/ visual concerns. PLC is satisfied with the proponent's approach to assessing effects on community image in the context of economic diversification, community well-being and business.

### **Employment**

The public has expressed doubts about the project generating uninterrupted employment and project benefits during the life of the mine, particularly if mineral prices drop below certain thresholds and result in temporary mine closures. The determination of significance of any anticipated effect includes an assessment of probability, and the proponent may wish to include a discussion of uncertainty as it relates to employment and project benefits.

### **Basic Project Feasibility/ Profitability**

The public has questioned assumptions and project feasibility studies including the use of discount rates. The primary purpose of the Environmental Assessment (EA) is to assess adverse project effects and identify ways to mitigate adverse effects including adverse cumulative effects. The EA also documents project benefits as these may be considered by decision makers when determining whether a project can obtain an EA certificate despite anticipated or possible adverse effects. The purpose of the EA is not to describe or assess the project's financial feasibility and/or business case. PLC agrees with the proponent that public concerns regarding project feasibility are outside the scope of the EA.

## **Compensation**

The public has requested the proponent to provide information on compensation obligations, arrangements and studies relating to compensation. The proponent has generally responded that compensation issues are not within the scope of the AIF/EIS Guidelines. While PLC is generally in agreement with that response in regard to social and economic values, a more complete and useful response would refer to the studies of potential effects pathways and strategies to mitigate adverse effects.

## **Jacko Lake and Recreation Values**

Jacko Lake and its environmental services is the subject of many public comments, including comments on its value as a public recreation venue. The proponent has indicated its intention to assess potential effects on Jacko Lake's contribution to those environmental services.

PLC recommends that the proponent specifically commit to assessing the recreation value of Jacko Lake in the community and regional context, and characterizing the significance of any expected effect on that value.

## **Water Quality and Water Quantity**

Water quality and water quantity concerns have been raised and the proponent is committed to an effects assessment of these VCs and social and economic concerns related to current users of the nearby water resource, including nearby ranching and agricultural operations.

## **Requested Studies**

Many public comments request Project Description information at a level of specificity that may not yet be available from the proponent or necessarily required for the EAC Application. In certain instances, the public has asked for extensive studies from the proponent regarding potential project effects on community image, economic diversity, and/or property values. The proponent has affirmed their willingness to develop estimates of expected effects on those values for the EAC Application. PLC in general is satisfied with the proposed social and economic studies proposed by the proponent but there may be a need to enhance the information on specific issues at a later date (after completion of studies on specific effects pathways) if there appears to be potential for significant residual effects.

# APPENDIX 1 KGHM Ajax Mine: Economic and Social VCs

VC / Issue	Project Component	Effects Pathways	Public Concern	Notes
<b>Economic</b>				
Labour Force	All	<ul style="list-style-type: none"> <li>effects on labour force composition</li> </ul>		<ul style="list-style-type: none"> <li>As suggested by draft AIR</li> </ul>
Education and Training	All	<ul style="list-style-type: none"> <li>employee training programs</li> <li>effects on education services supply and demand</li> </ul>		<ul style="list-style-type: none"> <li>As suggested by draft AIR</li> </ul>
Employment	All	<ul style="list-style-type: none"> <li>construction</li> <li>operations</li> <li>decommissioning</li> <li>post closure monitoring</li> </ul>	yes	<ul style="list-style-type: none"> <li>As suggested by draft AIR;</li> <li>Includes direct, indirect and induced in person years per BC EAO AIR Template (BC EAO. 2010)</li> </ul>
Employment Income	All	<ul style="list-style-type: none"> <li>construction</li> <li>operations</li> <li>decommissioning</li> <li>post closure monitoring</li> </ul>		<ul style="list-style-type: none"> <li>Draft AIR suggested 'Income' as VC, changed to 'Employment Income';</li> <li>Includes direct, indirect and induced</li> </ul>
Business Opportunities	All	<ul style="list-style-type: none"> <li>supply and service contracts</li> <li>induced business activity</li> <li>displaced business activity</li> </ul>		<ul style="list-style-type: none"> <li>Draft AIR suggested "Business" as VC, suggest changing to 'Business Opportunities'</li> </ul>
Gross Domestic Product	All	<ul style="list-style-type: none"> <li>construction</li> <li>operations</li> <li>decommissioning</li> <li>post closure monitoring</li> </ul>		<ul style="list-style-type: none"> <li>Suggest adding as a VC as per BC EAO AIR Template (BC EAO. 2010)</li> <li>Potential source: I.O. model for construction and operations</li> </ul>
Government Revenues	All	<ul style="list-style-type: none"> <li>mineral taxes, royalties, income tax, sales tax, property tax</li> </ul>		<ul style="list-style-type: none"> <li>Suggest adding as a VC as per BC EAO AIR Template (BC EAO. 2010)</li> <li>Include federal, provincial, local Potential source: I.O. model and direct estimates</li> </ul>

VC / Issue	Project Component	Effects Pathways	Public Concern	Notes
Property Value	All	<ul style="list-style-type: none"> <li>dust</li> <li>air quality</li> <li>noise</li> <li>vibration</li> <li>visuals/ aesthetics</li> <li>geology, landforms and soils</li> <li>supply and demand influences</li> </ul>	Major issue	<ul style="list-style-type: none"> <li>Suggest adding as a VC</li> <li>Includes all property types: residential, commercial, industrial, agricultural, institutional</li> </ul>
Cost of Living?			Not mentioned as issue (page 23)	<ul style="list-style-type: none"> <li>Suggest deleting as separate VC and perhaps including as part of Community Well-Being and/or other values</li> </ul>
Housing and Accommodation	All	<ul style="list-style-type: none"> <li>housing supply available for construction worker accommodation</li> <li>housing supply available for operations worker accommodation</li> </ul>		<ul style="list-style-type: none"> <li>Draft AIR suggested Housing; added 'Accommodation'</li> </ul>
Infrastructure and Transportation	All	<ul style="list-style-type: none"> <li>construction access</li> <li>operations access</li> <li>ore hauling</li> <li>power supply</li> <li>water supply</li> <li>fire protection</li> <li>sewer</li> <li>solid waste disposal</li> </ul>	yes	<ul style="list-style-type: none"> <li>Draft AIR suggested Infrastructure; added 'Transportation'</li> <li>Should include effects of project on air transportation</li> </ul>
Economic Diversification	All	<ul style="list-style-type: none"> <li>project employment</li> <li>supplies and services</li> <li>displacement of other activities</li> </ul>	yes	<ul style="list-style-type: none"> <li>As suggested by draft AIR;</li> <li>Applies at regional and community level;</li> <li>Possibly include image/ branding of community</li> </ul>
<b>Social</b>				

VC / Issue	Project Component	Effects Pathways	Public Concern	Notes
Culture?	All		yes	<ul style="list-style-type: none"> <li>Suggest deleting as a separate VC, perhaps including changes to way-of-life and other related issues as part of community well-being</li> <li>Aboriginal culture considered in FN assessments and effects on Aboriginal communities</li> </ul>
Community Well-Being	All	<ul style="list-style-type: none"> <li>Changes in population demographics (gender, age, etc.)</li> <li>Changes in economic structure</li> </ul>	yes	<ul style="list-style-type: none"> <li>Draft AIR suggested Community Health be included with Community Well-Being;</li> <li>Possibly include community resilience, family relationships, crime, image/ branding of community, "way of life", etc.</li> </ul>
Public Facilities and Services	All	<ul style="list-style-type: none"> <li>Changes in population demographics (gender, age, etc.)</li> <li>Changes in industrial/ business activities</li> </ul>		<ul style="list-style-type: none"> <li>Draft AIR suggested 'Transportation' be included here; suggest transportation be included as part of infrastructure leaving this to focus on community facilities (e.g. schools, fire protection, police, health services, emergency services, etc.)</li> </ul>
Land and Resource Use	All	<ul style="list-style-type: none"> <li>consistency with Kamloops OCP, TNRD Regional Growth Strategy (RGS), Kamloops LRMP, ALR;</li> <li>conflicts with current land and resource use including recreation, ranching, other tenure holders and other resource uses</li> <li>effects from dust, air quality</li> </ul>	Major issue	<ul style="list-style-type: none"> <li>As suggested by draft AIR, project effects to include project footprint and buffer area, as well as conflicts with other resource uses (ranching, recreation, etc.) and tenure holders</li> <li>Suggest draft AIR be more specific and refer to Kamloops OCP, neighbourhood plans, etc.</li> <li>Given importance of recreation values may want to address effects on recreation as separate VC</li> <li>Suggest add country foods / urban gardening (berry picking and plant gathering as possible other resource uses)</li> </ul>

VC / Issue	Project Component	Effects Pathways	Public Concern	Notes
Outdoor Recreation	All	<ul style="list-style-type: none"> <li>• Jacko Lake</li> <li>• Inks Lake</li> <li>• hiking and biking trails</li> <li>• Other recreational areas (if any)</li> <li>• dust</li> <li>• air quality</li> <li>• noise</li> <li>• vibration</li> <li>• visuals</li> </ul>	yes	<ul style="list-style-type: none"> <li>• Suggest adding as a VC</li> <li>• Suggest also including Jacko Lake as part of Outdoor Recreation</li> </ul>
Jacko Lake	All	<ul style="list-style-type: none"> <li>• Views</li> <li>• Access</li> <li>• Fish Habitat</li> <li>• Wilderness Quality</li> </ul>	Major issue	<ul style="list-style-type: none"> <li>• As suggested by draft AIR;</li> <li>• Unusual to have a specific recreation feature singled out as a VC;</li> <li>• May be problematic when assessing significance</li> </ul>
Visual Impact/ Aesthetic Features	Power Lines Tailings Storage Ore Storage	<ul style="list-style-type: none"> <li>• views from city</li> <li>• views from nearby residences</li> <li>• views from recreation areas</li> <li>• views from roads/highways</li> <li>• Dark Sky?</li> <li>• Shading?</li> </ul>	major issue	<ul style="list-style-type: none"> <li>• As suggested by draft AIR</li> <li>• Suggest Visuals consider dark sky &amp; possibly shading issues</li> </ul>
Dark Sky?	Outdoor Lighting	<ul style="list-style-type: none"> <li>• 24 hr operations</li> </ul>	yes	<ul style="list-style-type: none"> <li>• Suggest include as part of Visuals; also, include shading</li> </ul>

Notes: I.O. model: BC Stats Input-Output model.