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### **Environmental Assessment Office**

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Due to the size and scope of this project, from the mine to the port of export (including potential cumulative effects from the Bear project which could be an addendum to this project), we request a full panel review with public hearings. It is not right that these public meetings are the only opportunity for the public to ensure that its concerns are included in the final AIR and described in the proponent's EIS. As it stands right now, the dAIR and the public are missing a lot of information that should be subject to public review by the citizens and independent experts.

The dAIR, as presented, contains significant deficiencies that should be corrected before the proponent proceeds to the EIS. The deficiencies include, (but are not limited to) the following:

- ◆ **mine plan and water management plan:** the public has not seen a detailed plan of the mine and proposed use and management of water. In the absence of this information, there is little basis for forecasting the extent of mine impacts, especially those relating to acid mine drainage.
- ◆ **marine environment:** the dAIR/EIS should include ecological studies on all of Baynes Sound and the Alberni Inlet/Somass Estuary. The studies should include tissue metal analysis of all shellfish and an examination of bio-accumulation of metals through the food chain.
- ◆ **groundwater and aquifers:** more information is needed about proposed studies of groundwater and aquifers underlying the entire Raven coal tenures. There is significant risk for this project to effect the flow regimes and water quality in all these streams through natural faults and subsidence cracks as the mine collapses after the mining process.

- ◆ **hydrology and aquatic life:** the freshwater study areas for hydrology, fisheries, and aquatic life are too small (fig 5.4-1, p.88). It should cover the entire Raven coal tenure.
- ◆ **fisheries:** current status of salmon, steelhead, and sea-run cutthroat populations of the Raven tenure should be determined as a benchmark.
- ◆ **exported CO<sub>2</sub>:** the exported coal will all be burned and the CO<sub>2</sub> will be released into the atmosphere, where it will contribute to global climate change. Should we be exporting this CO<sub>2</sub> when any new coal burning project in BC requires carbon sequestration? The Updated Project Description admits that the product may be sold as thermal coal depending on the market conditions at the time of sale. It is low grade metallurgical coal that needs to be blended with higher grade coal before it can be used for that purpose but it can be burned as high grade thermal coal without blending.

A full set of baseline data needs to be collected as soon as possible in order to assess all future low probability-high consequence situations. Contaminants of high local concern, such as cadmium, need to be assessed in full detail.

It is absolutely critical that aquifer mapping be expanded to a Comox Valley Regional Study Area (RSA). Additionally, the well-testing program needs to be greatly expanded in area and over a longer time period.

A number of terms used in the dAIR need to be defined in order to give the EIS the credibility it requires. As a start, these are: sustainability (whose definition?), cumulative effects, adequate (by whose standards and based on what criteria?).

The study areas for different types of impacts (LSA's and RSA's) are far too narrow and will in no way encompass many of the most important effects—both environmental and social—should this proposed mine be approved.

### **Mine site information needed**

The BC government policy for metal leaching and acid rock drainage (ML/ARD) states that the goal is prevention. There is insufficient information in the project description about the management of both waste rock and coal rejects. There needs to be a full description of an effective ML/ARD management program that is site-specific for this mine.

A benchmark NPR (neutralization potential ratio) should be established to delineate between PAG (potentially acid generating) and NAG (not acid generating) rock. The Updated Project Description refers to material with an NPR of less than 2 as PAG. There is no consensus that an NPR of 2 or greater will eliminate the potential for ARD. Recent research at Quinsam Coal reinforces this point since Q Coal used the NPR of 2 as its benchmark yet arsenic from the waste rock or coal rejects is migrating into Long Lake and the Quinsam River.

Exactly how does the proponent plan to deal with acid rock drainage (ARD)? What is the management plan for potentially acid-generating (PAG) material?

There needs to be a description of the Environmental Effects Monitoring (EEM) program the proponent will put in place, for how long, and the need to make the data freely available to the public.

The Closure and Remediation section of the project description makes no mention of post-closure monitoring, nor to measures to be taken for the long term ML/ARD prevention, mitigation, and/or treatment. This needs to be fully described in the proponent's Environmental Impact Statement (EIS).

Is "abandonment" (in section 2.2.12) a recognised activity under any federal or provincial legislation? We don't consider "abandonment" acceptable; the end of mining operations should be the start of a long-term period of monitoring and possibly water treatment.

A mine plan that prevents ARD production may cost more up front but will pay dividends in the avoidance of post-closure liabilities. Relying on subsequent neutralisation of ARD products by excess alkalinity in a blended waste dump may not prevent metal leaching, even if the seepage leaving the site is neutral or basic. Once the metal is mobilised, it may take costly, long term water treatment to remove it.

The project description sites the coal refuse stockpiles and the coal processing facilities over six ephemeral tributary streams and a fish-bearing tributary to Cowie Creek, but shows no water diversions or works and gives no detail regarding the settling design criteria, nor its size. The settling pond needs to be sufficient to treat all the process water and all the contaminated runoff from the coal processing yard, stockpile areas, and access road during the most intense storm events. The plans need to show the design and locations of the polishing pond and catchment ditches, as well as a discussion on the use of flocculants for effluent treatment.

The bond for restoration has to be based on restoration costs, which depend on the sampling and management (EEM) program.

Yours,

David Morwood, Vice President  
TRRS

*"A Healthy, Diverse and Productive Tsolum River"*