

I would like to take this opportunity to encourage the review panel to consider how proposed changes to oil and natural gas royalties will affect the cost of public infrastructure. Increased consumption and costs of fuels to construct and maintain of our roadways, drainage, water and sewer systems affect every Albertan. I am concerned that in the efforts to ensure that Albertans receive a fair return for their energy resources, we might be creating a need to increase the tax burden on Albertans as aggregate producers adjust their prices to recover the royalties from their customers. To illustrate this potential problem, I will show you how our planning system is creating a trend to greatly increase the economic, social, and environmental costs related to the production of a common construction material, mineral aggregate (primarily sand and gravel).

In excess of 60 million tonnes of sand and gravel are being extracted and transported annually in Alberta, and it is projected that we will consume 5 billion tonnes from 2000-2050 (Edwards 2001). Over half of this tonnage is destined for provincial and municipal projects, including highways. Under Alberta's current planning procedures and land management policies, little to no consideration is given to managing mineral aggregate resources with the needs of future generations in mind. We see communities building and land use/conservation decisions being made, near or over top of valuable aggregate resources, without even acknowledging that the resource is there. As a result, we are seeing increased haul distances to bring the essential resource to market.

Moving in excess of 30 million tonnes annually to the location of public projects, over increasing distances, at retail energy prices, is escalating the construction costs of Alberta's infrastructure. These inflated costs are primarily being covered by the tax payers of Alberta. This unchecked trend also leads to the unnecessary and significant emission of additional greenhouse gases per unit of infrastructure, which is contrary to both the Kyoto protocol and Alberta's own Climate Change legislation.

A case study to quantify the significance of the environmental and economic costs is documented in *The Application of Sustainable Development Principles to the Alberta Aggregates Resource Sector* (Richards and Peel 2004) (attached). The study concluded that planning, without considering the implications of using alternate gravel sources, would create an additional cost of \$1.6 billion (diesel fuel @ \$0.55/l) and ~680,000 tonnes of CO₂ emissions, through increased haul distances. I would like to stress this is the cost escalation of restricting access to only one sand and gravel deposit; imagine the implications considering the trend is occurring across the entire Province.

The Alberta government has unknowingly manifested this trend through a significant ownership ruling included in the Law of Property Act where sand and gravel are "*deemed not to be a mine, mineral or valuable stone but is deemed to be and to have been a part of the surface of land and to*

belong to the owner of the surface” (Alberta Government 2007). As a result, even though significant amounts of these minerals are used to construct public works, little Provincial recognition has been given to managing these resources. In fact, Alberta has no strategy, or plans to develop a strategy to ensure the sustainable development of aggregate resources.

Ontario is the only province to enact legislation, the Aggregate Resources Act (Ontario Statutes 1990), which specifically protects and manages aggregate resources. In 1966 Quebec took the strong action of expropriating aggregate resources on private land, after realizing the significant contribution of those resources contribute towards public good (Government of Quebec 2005). As a growing province, with a healthy appetite for aggregate resources, Alberta should be planning to manage aggregates for the benefit of Albertans today and tomorrow.

For additional information, you can refer to Alberta Energy’s mineral development strategy proceedings (Alberta Energy 2002), a document entitled *A Review of Mineral Aggregate Production and Operating Conditions in Alberta, Canada* (Edwards 1998), and the thesis entitled *Sustainable Development of the Aggregate Resource of Alberta* (Peel 2004). These documents justify why aggregate resource management should be an Alberta Government top priority item.

And finally, Natural Resources Canada is attempting to get a deeper commitment to a Memorandum of Understanding they signed with 4 Alberta government agencies to improve production reporting of the aggregate resource sector. NRCan has commissioned Heather Budney to approach the Alberta government, stakeholders, and aggregate resource producers to collaboratively develop a production reporting standard. Such a standard is a step towards policy reform for a Provincial sustainable aggregate resource development strategy.

As such a strategy is beyond the scope of this royalty review, the review is an opportunity to draw attention to this issue that could be affected by any outcome of the review. As sustainable development denotes the inter-connection of all systems, the best approach to any analyses is a multi-disciplinary or cross-sector approach. Thus, this review panel should convey a message to the Government that to address the best royalty framework for Albertans, consideration should be given for how any structure affects the aggregate resource sector, a major energy consumption sector. This royalty review could be touted as a major sustainable initiative, which includes a component to address climate change, if it assisted in instigating a strategy development towards a Provincial aggregate resource management program.

Thank-you for opportunity to present this submission, and I appreciate your dedication to a fair and democratic process.

References

- Alberta Energy. 2002. Alberta Mineral Development Strategy 2002. p. 23. Retrieved May 13, 2007: http://www.energy.gov.ab.ca/docs/minerals/pdfs/Mineral_Strategy.pdf.
- Alberta Government. 2007. Queen's Printers. The Law of Property Act. Retrieved May 12, 2007 <http://www.qp.gov.ab.ca/documents/acts/L07.CFM>.
- Edwards, W.A.D. 2001. A Century of Sand and Gravel Geology and Use in Alberta 1950-2050. Presented at the 37th Forum on the Geology of Industrial Minerals, Victoria. May, 2001.
- Edwards, W.A.D. 1998. A Review of Mineral Aggregate Production and Operating Conditions in Alberta, Canada. Aggregate Resources: A global perspective. P.T. Bobrowsky (Ed.) A.A. Balkema. Rotterdam.
- Government of Quebec. 2005. Exploration and mining of surface mineral substances. Definitions and mineral rights. Retrieved May 12, 2007: http://www.mrn.gouv.qc.ca/english/publications/online/mines/sms/definitionrights_definition.asp.
- Ontario Statues. 1990. The Aggregate Resources Act. R.S.O. 1990 Chapter A.8. Retrieved May 13, 2007: http://www.e-laws.gov.on.ca/DBLaws/Statutes/English/90a08_e.htm.
- Richards, J. and Peel, R.D. 2004. The Application of Sustainable Development Principles to the Alberta Aggregates Resource Sector.
- Wikipedia. 2006. Domesday Book. Retrieved November 6, 2006: http://en.wikipedia.org/wiki/Domesday_Book.