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BASc Electrical Engineering, UBC, 1968

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35 years experience in Engineering, and Engineering Management.

2000 – 2006: Manager, Mission Systems Engineering at MDA Space Systems, Brampton ON. Responsible for 50-75 engineers working on Canadarm systems support contract with the NASA Space Shuttle program, and the Canadian Space Agency Space Station robotics systems support contract.

2000 – 2002: a Corporate Director of a publicly traded technology company on the TSX Venture Exchange.

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Mine Dewatering

Raven proposes to use the water seeping into the mine workings as feed water for their coal processing plant. However, the amount of water coming into the mine is unknown, due to the extensive mine workings (extending over 8.5 km, and running under 5 local creeks and the Tsable River). Geologic faulting is extensive over the Raven mine area, and mine dewatering was an issue for the old Tsable Mine and for the Quinsam Mine. In addition, mine water is expected to be saline.

Section 4.2.1 of the AMEC Project Description mentions all of the above issues, and proposes three solutions: treatment within the wash plant, storage and release (possibly with treatment), and deep well injection. There need to be environmental surveillance mechanisms in place to ensure that mine dewatering treatment is centralized, and treated to the same standard as other waste water from the mine.

Since the volume and pollutants of the mine water are unknown, monitoring as the mine evolves is critical. Deep well injection would just make the issue unable to be monitored, and the mine could always say “Any downstream environmental impact is not our fault”. Full treatment on the surface at a central site would allow for monitoring of the pollution control process.

Coal Gas Methane

Raven proposes to vent methane from their mine into the environment. The May 2011 AMEC Project Description document (p85) says methane volumes will be 127,500 cubic meters per day, or 87,000 Kg per day. At 260 production days per year, this amounts to over 22,000 metric tons of methane per year.

Obviously, keeping methane under control within the mine is mandatory to protect workers from coal gas explosions.

However, the global warming effect of methane is estimated to be from 25 to 80 times higher than carbon dioxide, which leads to the conclusion that the methane released in the Comox Valley by the Raven Mine will cause a similar amount of global warming as the Raven coal that will be burned in the Far East.

Section 5.2.2.2 of the dAIR document discusses the impact of coal gas methane, but at the same level as diesel emissions from mine equipment. Given the large volumes of methane to be released, this item deserves separate consideration as a major industrial pollutant from the Raven Mine.

When considering the proposed mine design, capture and sale or disposal of the methane should be proposed as an alternate way of executing the mining project. Even the burning off of the methane would dramatically reduce the global warming effect from the methane, reducing it from 25 to 80 times, to that of carbon dioxide.