May 28, 2026

Brief opinion on the Great Bear Gold Project Impact Statement risk assessment (Appendix N) by WSP From April, 2026.

I am a Principal at the firm I founded, NEK Associates LTD, and a Senior Research Scientist at the Harvard Center for Risk Analysis. I bring nearly 40 years experience to the design and implementation of human health and ecological risk assessments, focused on integrated, risk-based modeling approaches to support sustainable environmental decision making. I recently completed a series of reports and associated publications on behalf of the World Bank on exposure to methylmercury from artisanal scale gold mining. I have published peer reviewed papers on fish consumption and probabilistic risk modeling. I served on the Board of Scientific Counselors at the U.S. EPA for six years and was Chair for the last three. I am a member of the Scientific Advisors on Risk Assessment for the European Commission and serve as frequent peer reviewer under EU environmental grant programs. I served as Treasurer and President for the Society for Risk Analysis (SRA) where I am also a Fellow, and served as Treasurer and on the Board of Directors for the Society for Environmental Toxicology and Chemistry (SETAC). I received my A.B. *cum laude* from Harvard College, and my Sc.M. and Sc.D. from Harvard University in Environmental Science and Risk Management.

Overall, this report relies on a flawed risk assessment and underlying modeling to conclude that project impacts on human and ecological health will be negligible. Comments and observations I made previously still stand and remain unaddressed. While the report predicts exceedances of regulatory thresholds for impacts of methylmercury on human health under “current,” “existing,” and “baseline” conditions, it then concludes that project impacts will make a negligible adverse contribution to human and ecological health. This conclusion is based on a fundamentally flawed analysis and underlying assumptions, notably: 1) an underprediction of effluent sulfate concentrations with resulting increases in methylmercury production and therefore fish tissue concentrations (see previous expert reports by Drs. Morin and Branfireun); 2) a reliance on inappropriate fish consumption rates; 3) a flawed bioaccumulation factor (BAF) approach that underpredicts fish tissue concentrations; and, 4) a complete disregard for cumulative impact assessment. I also note that the report, while voluminous, repeats boilerplate language throughout; does not utilize appropriate methods for evaluating dynamic natural systems; does not provide quantitative estimates of uncertainty; makes it challenging to understand the specific methods and models used and ultimately, in many cases, inappropriately utilizes simplistic, static or steady-state approaches; relies on outdated risk assessment methods; and, treats cumulative impacts in a cavalier and incorrect manner.

Ultimately, *any* increase in methylmercury concentrations in fish will result in increased exposures and therefore adverse impacts to an already impacted community. The predicted increase in sulphate concentrations in effluent will result in increased

methylation and therefore increases in fish tissue concentrations. As noted by Dr. Mergler in 2015 as referenced in previous documents:

> "There is no question that the mercury already present in the Grassy Narrow area poses important risks to health and well---being to the community and that any further addition of mercury would increase that risk. […]
>
> Any increase of exposure to this already 'sensitive' community would further compound the harm to the health and well-being of the present and future generations."

Conclusion: The risk assessment underpredicts methylmercury concentrations in fish and therefore impacts to human and ecological health. The report already predicts exceedances of regulatory thresholds based on existing concentrations in fish. Any increase in methylmercury concentrations in the environment will increase fish tissue concentrations with resulting increases in adverse impacts to an already impacted community.