

Version 3 Hammond Reef Gold Project EIS/EA – Addendum (Part B)
Responses to Provincial Information Requests

1656263

Identifier	Topic	Reference to EIS/EA Report	Summary of Comment	Proponent's Response	Subsequent Comment
			<i>Date: March 2014</i>	<i>Date: June 2015</i>	
MOE SW-3	Water Quality		<p>Additional consideration of the effect of sulphate concentrations on mercury methylation rates in the receivers (Marmion Lake and Lizard Lake); confirmation through ongoing monitoring of surface water quality, sediment quality, and fish tissue mercury concentrations.</p>	<p>Canadian Malartic understands that the Government Review Team is concerned about the potential increase in mercury levels within the Marmion Reservoir. Mercury and sulphate concentrations in water quality and mercury concentrations in fish tissue were all considered as part of the environmental assessment. Mercury concentrations were included in the overall mass balance model for the site and basin, however since additional mercury inputs resulting from mining are not expected and the increase in sulphate values are not expected to change the redox state of Marmion Basin, the mercury values were not carried forward for more detailed evaluation or modelling.</p> <p>Increase of sulphate concentrations as a result of mine operations are expected to be relatively minor in both the overall site discharge and groundwater. All waters report to the open, oxygenated waters of Marmion Basin or Lizard Lake, hence sulphate reduction in these locations basin is not expected to be enhanced. Since increase in mercury methylation is related to that of sulphate reduction (Fitzgerald and Lamborg, 2005; Bergman et al., 2012) mercury methylation as a result of the mine is not expected to incrementally influence the overall naturally occurring mercury in the area. Monitoring of mercury concentrations in site waters and in Marmion Basin will continue during operations, and a re-evaluation of impacts of mercury would be completed should results indicate increasing trends in dissolved mercury concentrations. Monitoring of fish tissue concentrations will be undertaken as part of the Environmental Effects Monitoring (EEM) program.</p> <p>References <i>Fitzgerald, W.F., and C.H. Lamborg. 2005. Geochemistry of Mercury in the Environment. In: Treatise on Geochemistry 9. Eds, B. Lollar. Exec. Eds. H.D. Holland and K.K. Turekan. Elsevier Ltd. 2005.</i> <i>Bergman I, Bishop K, Tu Q, Frech W, Åkerblom S, et al. (2012) The Influence of Sulphate Deposition on the Seasonal Variation of Peat Pore Water Methyl Hg in a Boreal Mire. PLoS ONE 7(9): e45547. doi:10.1371/journal.pone.0045547</i></p>	<p>MOE SW-3B</p>