

Identifier	Topic	Reference to EIS/EA Report	Summary of Comment	Proponent's Response	Subsequent Comment															
			<i>Date: August 2015</i>	<i>Date: November 2015</i>																
EMRB-NEW11	Air Quality, Model, SO2 and NO2 deposition	Atmospheric Environment TSD §3.1.4.1 EIS/EA §6.1.2.1.1	For SO2 and NO2 deposition, atmospheric concentrations were assessed, and the report noted that the interaction between air emissions and soils is anticipated to be negligible to low, and therefore not assessed further. Please clarify how this was assessed? This is typically completed through an assessment of acid deposition rates due to project acid gas emissions (SO2 and NOx). However, acid deposition rates do not appear to have been calculated/modelled in the Air Quality TSD. In addition, it is unclear which emission scenario was used to assess the air concentrations that were presented, as these are much lower than the maximum predicted concentrations in the LSA, as presented in the Air TSD. Please clarify.	<p>An assessment of Acid Deposition is not typically conducted for similar mining sites as part of the EA process as mine sites are not significant sources of acid gases such as SO2 and NOx. The largest combustion sources at the Facility will be the off-road vehicle fleet. The federal Sulphur in Diesel Fuel Regulations set maximum limits for sulphur in diesel fuel for use on-road, off-road, in rail (locomotive), vessels, and stationary engines and requires that the fuel used by the off-road vehicles will be ultra-low sulfur diesel. This limits the amount of SO2 produced by the off-road vehicle fleet. The Federal Off-Road Compression-Ignition Engine Emission Regulations align the requirements for all new off-road engines sold in Canadian with the US EPA requirements so that all new vehicles will have to meet the most stringent Tier 4 requirements that apply to NOx emissions on and after January 16, 2012. The assessment conservatively assumed that the off-road vehicles will be only meet Tier 3 requirements. The actual fleet will likely be required to meet Tier 4 based on the actual construction timing and availability of used equipment.</p> <p>The only significant stationary source of SO2 emissions is the cyanide destruction unit. The emission rate for this source was conservatively estimated to demonstrate compliance with the 1 hour O. Reg. 419/05. Using this hourly emission rate for a daily emission rate will significantly overestimate SO2 emissions from this process source.</p> <p>Since EMRB has requested an assessment, a review of the triggers for an assessment was undertaken. There is no Ontario-based guidance for evaluating a facility's emissions for the likelihood to result in acid deposition, and therefore the criteria provided in the Alberta Government document entitled "Air Quality Model Guideline" s.7.1 have been used to complete the following screening level assessment for the Facility.</p> <p>Per the Alberta Air Quality Model Guideline, acid deposition modelling should be considered for a facility if:</p> <ul style="list-style-type: none"> • <i>The proponent's combined emissions of SO2, NOx and NH3 are greater than 0.175 t/d of H+ equivalent, calculated as</i> <ul style="list-style-type: none"> ○ <i>Total H+ equivalent (t/d) = 2*(SO2 t/d)/(64)+1*(NOx t/d)/(46)+1*(NH3 t/d)/17</i> • <i>There is evidence that regional soil and surface water is more sensitive to acidification than is estimated in the provincial framework, or</i> • <i>There is existing deposition and/or acidification impact monitoring that indicates a potential concern if acid deposition increases</i> <p>The following table provides estimates for the tonnes/day emissions of the relevant compounds as well as the facility's Total H+ equivalent (as calculated using the above equation):</p> <table border="1" data-bbox="1292 1467 1874 1729"> <thead> <tr> <th>Compound</th> <th>24-hour Emissions (g/s)</th> <th>24-hour Emissions (t/d)</th> </tr> </thead> <tbody> <tr> <td>NOx</td> <td>46.408</td> <td>4.01</td> </tr> <tr> <td>SO2</td> <td>20.419</td> <td>1.76</td> </tr> <tr> <td>NH3</td> <td>1.060</td> <td>0.09</td> </tr> <tr> <td>Total H+ Equivalent</td> <td></td> <td>0.148</td> </tr> </tbody> </table>	Compound	24-hour Emissions (g/s)	24-hour Emissions (t/d)	NOx	46.408	4.01	SO2	20.419	1.76	NH3	1.060	0.09	Total H+ Equivalent		0.148	
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Version 3 Hammond Reef Gold Project EIS/EA – Addendum (Part B)
Responses to Provincial Information Requests

1656263

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				<p>As indicated in the above table, the Total H+ equivalent is less than 0.175 t/d of H+.</p> <p>With respect to the comment concerning which emission scenario was used to assess air concentrations, please refer to the response to Comment T(2)-02, item number 1 for a summary of the assessment scenarios and inventory boundaries of each assessment.</p> <p>Therefore, no additional further assessment is required since the conservative emission rates are below the Alberta screening guidelines and no additional mitigation to control SO2 and NOx production is possible from the vehicle fleet.</p>	