

Identifier	Topic	Reference to EIS/EA Report	Summary of Previous Comment	Proponent's Response to Previous Comment	Follow-up comment/ Request for Information	New Proponent Response	Subsequent Comment
			<i>Date: March 2014</i> MOE-GW 2	<i>Date: June 2015</i>	<i>Date: August 2015</i> Same response as MOE-GW 1B		
MOE-GW 2B	Ground water	Hydrogeology TSD	<p>A significant shortcoming of the EA is that there has been no groundwater modelling conducted for the TMF to estimate groundwater flows and assess mitigation and contingency measures. As the project proceeds to permitting and approvals, intensive groundwater investigation is going to be required in the area of the TMF to identify groundwater flow patterns and receivers; and to provide sufficient data to set up a groundwater model for purposes of quantifying seepage and determining the requirements for seepage collection and the subsequent effectiveness of these facilities. Although the water balance approach has demonstrated that everything being equal, the uninhibited discharge of seepage to the Marmion Basin will not result in an unacceptable impact, there needs to be maximum effort into ensuring that seepage is controlled. This is required primarily so that should the predictions of water quality and seepage rates be exceeded, the proponent will have already taken action to reduce the total impact, and will have control over discharge such that contingencies can be implemented.</p>	<p>Please see response to MOE GW-1, which identifies additional modelling completed and confirms Canadian Malartic Corporation's commitment to adjust the detailed design, and monitoring based on additional data collected at the detailed design phase, and ongoing discussions with the regulators during the permitting phase. Further details of this modelling evaluation are provided in the memorandum entitled 'Tailings Management Facility, 3D Groundwater Modelling' provided in Part D of the Addendum to the Version 3 EIS/EA as a supplemental to the Final EIS/EA Report.</p> <p>On April 28, 2014 Canadian Malartic hosted a water quality workshop with the Government Review Team. We also initiated communications with the Regional Groundwater Group Leader for MOE's Northern Region who stated on May 15, 2014 that upon further clarification he is "satisfied at this time with the estimates of seepage to Lizard Lake."</p>	<p>The proponent has completed a 3D groundwater model for the western half of the TMF, which has provided an estimate of seepage discharging to Lizard Lake. These estimates have then been used to estimate contaminant loadings to Lizard Lake from the tailings discharging through groundwater seepage. The model also serves to provide an estimate of how much seepage will be intercepted by the proposed seepage collection system. As noted by the Environment Canada reviewer, there continues to be shortcomings with the model that should be addressed:</p> <ul style="list-style-type: none"> The model only covers the western half of the TMF, based on the proponent's assumption that Lizard Lake is the primary receptor for seepage from the TMF. Although this assumption is reasonable, a more expansive model is required to quantify the total seepage from the TMF, identify if there are receptors other than Lizard Lake, and quantify the seepage losses that may migrate directly to the Marmion reservoir. The assumption that the vertical hydraulic conductivity of the overburden is 10 times less than the horizontal conductivity is not supported by limited soil information (boreholes) available at the location. This requires both some further investigation, and determination of the model's sensitivity to this parameter. <p>Despite these shortcomings, it is my opinion that the modelling that has been done is suitable for the purposes of the EA as the work done has quantified the risk to the surface water receiver and identified effective mitigation and contingency measures. As such, the outstanding concerns can be addressed in the MOECC's permitting, which should consider the seepage and loading rates reported in the EA as commitments that could be recognized as limits in an ECA. To address the outstanding concerns, the MOECC will require the proponent carry out further work to support permit applications, which will include (but not necessarily be limited to) additional boreholes and monitoring wells in the area of the TMF to provide a better understanding of the area hydrogeology and improve the model calibration; expansion of the model to encompass all of the TMF and thereby identify additional receptors and quantify seepage losses to all receptors, including Marmion Reservoir; detailed design of the proposed mitigation measures; updated modelling reflecting the final design of the mitigation measures; and calibration and sensitivity analysis of the model(s). Typically, the proponent should be consulting with MOECC staff to determine the additional information that will be required to support applications for approvals and permits.</p>	Acknowledged.	N/A