Public Comment Summary Table
(comments received March 2014)

Proposal: Hammond Reef Gold Project Environmental Impact Statement/Environmental Assessment Report
Proponent: Canadian Malartic Corporation

Submitter	Summary of Comments	Proponent's Response	Status
Brookfield	The EIS/EA has not comprehensively taken into account the compounding impact of drought conditions. This concern was previously raised with Osisko [Canadian Malartic Corporation] in a January 28, 2013 teleconference between the MNR, Brookfield, Osisko [Canadian Malartic Corporation], Golder, H2O Power and OPG.	Continuous simulation of the Upper Marmion Reservoir water balance was completed over a 27-year time period from 1984 to 2010, using historic monthly climatic data and a synthetic time series of monthly reservoir inflows. This approach accounts for the compounding impact of drought conditions that occurred during this period. Refer to: ■ Final EIS/EA Report, Chapter 6 Effects Assessment, section 6.1.3.1.2 (2nd bullet, page 6-39); and ■ Hydrology TSD, Chapter 5 Streamflows, Section 5.2.1.4 (pages 103 to 108).	
Brookfield	The hydrological assessment in the EIS/EA report does not address inter or intra reservoir impacts or the compounding effects that occur in the watershed during low inflow conditions.	The hydrological assessment consisted of modelling the monthly water balance in the Upper Marmion Reservoir, since the Project will be situated in the watershed contributing inflows to this reservoir. Modelling considered the Lower Marmion Reservoir only during the open water season, when it was assumed that the upper and lower reservoirs operate as a single body. Thus, modelling of the open water season accounted for increased inflows to the reservoirs due to a larger contributing watershed and increased evaporation losses from the reservoirs due to a larger lake surface area. During the winter season the Sluiceway between the two reservoirs is used to maintain water levels in Lower Marmion Reservoir for cooling water pumps for the Atitkokan Generating Station. Modelling therefore assumed that the two reservoirs operate independently during this season. The maintenance of a minimum outflow from the Sluiceway was not accounted for in the modelling to obtain conservative estimates of changes in outflows and water levels in the Upper Marmion Reservoir due to the project influences. The above-described approach is considered to address intra (within) reservoir impacts to both reservoirs during the open water season when water levels in Lower Marmion Reservoir are controlled by Raft Lake Dam, and to the Upper Marmion Reservoir during the winter season when water levels in Lower Marmion Reservoir are controlled by the Sluiceway. The timing of the opening and closing of the Sluiceway was considered at a seasonal level in the hydrological assessment. Modelling assumed the Sluiceway was open between May and October, and closed between November and April. Modelling at a more detailed level was not practicable given the available hydrologic and hydraulic information. Modelling of existing conditions and the project-influenced condition at the seasonal level indicated that there would be no increase in the frequency of occurrence of reservoir water levels falling below minimum requirements under the Seine River Water Management Plan as a result of the Project. Thus, the Project is not expected to result in significant inter (between) reservoir impacts. The response to comment (1) above describes how the compounding effects of low inflow conditions were addressed in the hydrological assessment. Refer to: ■ Hydrology TSD, Chapter 5 Streamflows, Section 5.2.1.4 (pages 103 to 108), Section 5.2.2.3 (pages 115-116), and Section 6.2.2.3 (page 162); and ■ Final EIS/EA Report, Chapter 6 Effects Assessment, Section 6.1.3.1.2 (pages 6-39 to 6-42), and Section 6.1.3.1.3 (pages 6-45 to 6-47).	
Brookfield	The hydrological assessment presumes a minimum daily water-taking for the project but does not expand on the upper range of water taking necessary to main the project's processes during low water availability.	Estimates of monthly water-taking for the project under a range of hydrological conditions (wet year to dry year with return periods of 100 years) have been provided in the Final EIS/EA Report and Hydrology TSD. Monthly values range from 0.084 m³/s (301.5 m³/hr) to 0.249 m³/s (898.0 m³/hr). The lower value represents the minimum freshwater requirement to maintain the Project's processes, and the upper value represents the Project's requirements during periods of low water availability. Refer to: ■ Final EIS/EA Report, Chapter 6 Effects Assessment, Table 6-17 (page 6-36); and ■ Hydrology TSD, Chapter 5 Streamflows, Table 5-36 (page 111).	

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Brookfield	The hydrological assessment presumes that there will be no interruption of mine activities or daily water taking as a consequence of the needs of adjacent stakeholders during a low water period, which suggests that Osisko [Canadian Malartic Corporation] is assuming that the project's processes will take precedence over all other watershed-related needs.	The assumption that there will be no interruption in the Project's water-taking is appropriate for the purpose of assessing the maximum possible effects on reservoir water levels and outflows. The hydrological assessment was therefore conservative as it did not take into account withdrawing water during certain periods of the year and storage on-site for later use. Canadian Malartic Corporation does not presume that the Project's processes take precedence over all other stakeholder uses, and has proposed the following to manage project water-taking and to mitigate effects on the physical environment: ■ Optimizing the design of the facility and flows to handle hydrologic conditions, and to allow for maintained existing uses of Marmion Reservoir; ■ Ongoing information sharing with other local water users; ■ Participation in the Seine River Water Management Plan; and ■ Withdrawing water only during certain periods of the year and storing it on-site Refer to: ■ Final EIS/EA Report, Chapter 8 Environmental and Social Management Planning, Table 8-2 (page 8-12).	
Brookfield	Data is missing from the Upper Marmion Reservoir's hydrological assessment time series (2003, 2004, 2011, 2012) ranging from days to years. Brookfield is an ancillary custodian of the Seine River watershed records, and we understand that a complete record was made available to Osisko [Canadian Malartic Corporation] and their agents. We would therefore have expected this data to have been factored into the hydrological assessment.	Golder used the datasets provided by Brookfield and the Ontario Ministry of Natural Resources (MNR) between 2010 and 2012, as well as additional data independently sourced from United States Army Corps of Engineers (USACE) in 2012, in the hydrological assessment. A complete dataset of daily water levels and discharges for Upper Marmion Reservoir, Lower Marmion Reservoir and Lac des Mille Lacs was listed in a data sharing agreement between Canadian Malartic Corporation and MNR, but were not received by Golder. Details of the datasets that were used in the hydrological assessment are as follows: ■ Upper Marmion Reservoir Outflows ▪ Daily outflow data for Raft Lake Dam from January 2005 to August 2010 were provided by Brookfield. Data from April 1, 2007 to December 31, 2008 were missing. Brookfield acknowledged the spotty nature of the data. ▪ Daily outflow data for Raft Lake Dam from January 2010 to mid-October 2011 were provided by MNR. ▪ Daily outflow data for Raft Lake Dam prior to 2005 were provided by MNR. Outflow observations between January 1980 and December 1998 appear to have been periodic since 74% of the data were missing. From January 1999 to December 2004, daily records appear to have been continuously maintained however 13% of the data were missing. ■ Upper Marmion Reservoir Levels ▪ Daily water level data for Upper Marmion Reservoir from May 1998 to August 2012 were sourced from USACE and were largely complete with only 1.4% of the record missing. ▪ Daily water level data for Upper Marmion Reservoir prior to May 1998 were provided by MNR. Water level observations between January 1982 and May 1998 appear to have been periodic since 77% of the data were missing. ■ Lower Marmion Reservoir Outflows ▪ Daily outflow data for Lower Marmion Sluiceway are not recorded. ■ Lower Marmion Reservoir Levels ▪ Daily water level data for Lower Marmion Reservoir from January 2005 to August 2010 were provided by Brookfield. ▪ Daily water level data for Lower Marmion Reservoir from January 2010 to mid-October 2011 were provided by MNR. ▪ Brookfield advised Golder by email that data for Lower Marmion Reservoir prior to 2005 were lost. This was confirmed in an email from Thunder Bay District MNR. ▪ Brookfield directed Golder to a United States Geological Survey (USGS) website to keep abreast of Lower Marmion Reservoir going forward but this website was never functional. Refer to: ■ Hydrology TSD Chapter 5 Streamflows, Table 5-2 (page 54); and ■ Hydrology TSD Chapter 6 Lake Water Levels, Table 6-2 (page 122).	

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Brookfield	Brookfield has been informed that Osisko [Canadian Malartic Corporation] recently may have incorrectly conveyed Brookfield and H2O Power's position and interests in respect of the EIS/EA report. Brookfield, Atikokan MNR, and H2OPower met with Golder in January 2013 and expressed concerns regarding the results of the preliminary hydrology. No return communications of any significance in response to these concerns have been logged by our offices.	Golder completed an analysis of the potential changes in Upper Marmion Reservoir outflows and water levels in the dry years 1998 and 2010, as requested at the January 2013 meeting. The results were summarized and documented in a technical memorandum dated December 11, 2013 and included in the Final EIS/EA Report.	
Brookfield	The Project will likely have an adverse effect on electricity generation at the Valerie Falls Facility, and maintaining environmental objectives at the Valerie Falls Facility headpond.	Based on modelling of the reservoir water balance, the maximum reduction in monthly outflows from Raft Lake Dam is predicted to be -4.9% which is within the generally accepted accuracy limits of flow measurements in natural rivers and streams. Thus, the Project's influence on outflows from the reservoir are too small to be detected by field measurements. Modelling also indicated that there would be no increase in the frequency of occurrence of minimum outflows from Raft Lake Dam as a result of the Project. It is therefore unlikely that the Project will have any significant effect on electricity generation at the Valerie Falls Facility, and maintaining environmental objectives at the Valerie Falls Facility headpond. It should also be noted that the predicted changes in monthly outflows from Upper Marmion Reservoir were conservatively based on the assumption that existing reservoir water levels are maintained (i.e. when assessing outflows the Project effects are maximized in terms of outflows). Depending on observed reservoir water levels relative to the minimum and maximum levels required under the Seine River Water Management Plan, the predicted changes in outflows may be reduced. Refer to: ■ Final EIS/EA Report, Chapter 6 Effects Assessment, Section 6.1.3.1.2 (pages 6-40 to 6-42); and ■ Hydrology TSD, Chapter 5 Streamflows, Section 5.2.2.3 (pages 115-116).	
Brookfield	The Project may also significantly interfere with Brookfield's ability to maintain water levels and flow rates at the Sluiceway. Of particular concern is navigability between the Upper and Lower Marmion Reservoirs, especially at the time of the Atikokan Bass Classic.	The Project will be situated in the watershed contributing inflows to the Upper Marmion Reservoir, and the hydrological assessment consisted of modelling the monthly water balance in this reservoir. Modelling considered the Lower Marmion Reservoir during the open water season, when it was assumed that the upper and lower reservoirs operate as a single body. During the winter season the Sluiceway between the two reservoirs is closed in order to maintain water levels in the Lower Marmion Reservoir for cooling water pumps for the Atitkokan Generating Station. Modelling therefore assumed that the two reservoirs operate independently during this season. Single year modelling predicted a maximum change in water level of -9.0 cm in May. Single year modelling assumed that existing reservoir outflows are maintained so that the Project effects will be on reservoir water levels only. Thus, there is a carryover effect on water levels from month to month and the timing of the maximum change is dependent on the starting month of the water balance. Continuous simulation of the reservoir water balance over 27 years predicted a maximum change in water level of -6.8 cm in January. Continuous water balance modelling to assess potential changes to water levels resulting from the Project assumed incremental adjustments to reservoir outflows, to minimize the changes in water levels while satisfying minimum outflow requirements. Golder considers this to be a more realistic scenario and to provide a better estimate of the timing of the maximum change in reservoir water levels. Since the Sluiceway is closed in January, changes in water levels in this month will not impact Lower Marmion Reservoir. Continuous simulation of the reservoir water balance indicated maximum potential changes in water levels of -1.4 cm in May, -3.1 cm in August, and -4.1 cm in October as a result of the Project. The Sluiceway is generally opened in May and closed in October each year, and the Atikokan Bass Classic occurs in August each year. These potential changes in water level correspond to Project water-taking in a dry year with a 100-year return period and represent a very conservative scenario since actual Project water-taking will be less and will vary from year to year depending on hydrological conditions. Whether or not changes of this magnitude affect navigability between the Upper and Lower Marmion Reservoirs will depend on where water levels are relative to minimum and maximum operating values specified in the Seine River Water Management Plan. However, impacts on navigability between the reservoirs is not expected because modelling of existing conditions and the Project-influenced condition at the seasonal level indicated that there would be no increase in the frequency of occurrence of reservoir water levels falling below minimum requirements as a result of the Project. Refer to: ■ Final EIS/EA Report, Chapter 6 Effects Assessment, section 6.1.3.1.3 (pages 6-45 to 6-48); and ■ Hydrology TSD, Chapter 6 Lake Water Levels, Section 6.2.2.3 (page 160-163).	

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Brookfield	Brookfield recommends the following conditions be placed on approval of the EIS/EA Report and issuance of the Permit to Take Water: ■ The Project reduces and if necessary eliminates any water takings from the Upper Marmion Reservoir during low-water periods; ■ Osisko [Canadian Malartic Corporation] be identified as a proponent, partner and signatory to the Seine River Water Management Plan; and ■ Project is designed to include a closed-loop water-taking from Upper Marmion such that daily water-taking is reduced to < 0.1 m^3/s, or is eliminated by ensuring that all water taken is routed back to the reservoir.	Canadian Malartic Corporation's proposal for managing water-taking and discharge to mitigate effects on the physical environment includes: ■ Optimizing the design of the facility and flows to handle hydrologic conditions, and to allow for maintained existing uses of Marmion Reservoir; ■ Ongoing information sharing with other local water users; ■ Participation in the Seine River Water Management Plan; and ■ Withdrawing water only during certain periods of the year and storing it on-site. The Project has been designed such that water-taking from Upper Marmion Reservoir is partially offset by discharges to the same reservoir in average and wet years. Under these hydrological conditions, water-taking is limited to potable water supply, and minimum freshwater requirements for the project's processes (i.e. reagent mixing and gland water). In average and wet years, annual net water-taking is expected to be < 0.1 m^3/s. In dry years with return periods up to 100 years, annual net water-taking is not expected to exceed 0.15 m^3/s. Refer to: ■ Final EIS/EA Report, Chapter 8 Environmental and Social Management Planning, Table 8-2 (page 8-12); and ■ Site Water Quality TSD, Chapter 3 Water Balance, Section 3.5 (page 29-36).	