

EPA Comments – Pebble Project Preliminary Draft EIS, Appendix K3.16 – Surface Water Hydrology

Agency	Comment No.	Section, Paragraph, and Page #	Cooperating Agency Comment (and Purpose of Comment)	Proposed Resolution (Additions or Deletion of Text)	Response
EPA	1	K3.16.1, K3.16-1	The development of the mine site water balance model.	Limiting the water balance model to the mine site only may be a concern because watersheds are interconnected and any activity in the mine site can affect both surface and ground water in the larger watershed. We recommend explaining the approach used to determine the boundaries of the model, or expanding the model as appropriate.	There are three models that are involved in predicting impacts from the mine, and each informs the other: a watershed model, a water balance model for the mine site and a groundwater model. Both the watershed model and the regional groundwater model encompass the NFK, SFK and UTC watersheds. The models were used to estimate the reduction in streamflow down to the confluence of the NFK and SFK, and Iliamna Lake on UTC. A discussion of the computed reductions in streamflow is included in the DEIS. Beyond those watersheds the computations suggest that the reduction will be on the order of discharge measurement error.
EPA	2	K3.16.1, K3.16-1	Month-to-month water balance approach	We recommend that the DEIS explain the rationale for using the month-to-month approach instead of a daily or event-based approach. We also note that extreme precipitation events can have significant impacts on the affected environment, which cannot be addressed by the water balance model using a month-to-month approach.	The magnitude of extreme events used to design bridges and culverts, spillways and dams are not based on the monthly averages from the water balance model. Other, event based, techniques are used.
EPA	3	K3.16.2, K3.16-8	The watershed model was calibrated using meteorological and streamflow data for the period 2005 to 2009...	In addition to calibrating the model, we note that a validation assessment of the model is needed before applying it to the overall	Additional information regarding the development of the 76-year synthetic record, including calibration and validation of the

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				period of record. We recommend that some of the years of data collected be used to assess whether the calibrated model is supported by independent data in the record, excluding the calibration period data.	Watershed Module are presented in Appendix K3.16.