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SUMMARY MEMORANDUM

TO:	**Kitselas Geothermal Inc.**
FROM:	**Scott Seifert, P.Eng., PMP and Jayson Kurtz, B.Sc., R.P.Bio., P.Biol., Ecofish Research Ltd.**
DATE:	**April 17, 2023**
RE:	**Summary of an Environmental Flow Needs Assessment for Proposed Water Withdrawal from Lakelse Lake for the Fuel for Reconciliation Geothermal Project**

Kitselas Geothermal Inc. is developing the Fuel for Reconciliation Geothermal Project at the M'Deek Geothermal Reservoir near Terrace, BC, to supply clean geothermal heat to industrial users in the area. As part of the development process, a series of exploratory drill wells are planned that will require temporary water withdraw from Lakelse Lake. Water withdrawals for the drilling program are anticipated over a five-month period in fall/winter of 2023/2024 and would total up to 25,000 m^3 in volume (approximately 10 Olympic-sized swimming pools). However, as only one exploratory well will be drilled and tested at a time, the maximum rate of water withdrawal would be 0.0405 m^3/s (or 3,500 m^3/day). To understand potential environmental risks, an environmental flow needs assessment[1] was completed by Ecofish Research Ltd.; this memo is a summary of that assessment.

The BC Environmental Flow Needs Policy[2] provides a framework to assess aquatic ecosystem risk from water withdrawal and is the standard by which proposed water licences are evaluated. Rivers and lakes are categorized into Risk Management Levels ranging from "1" (lowest risk) to "3" (highest risk) based on fish species present, flow sensitivity of the waterbody, stream size, and the amount of water proposed to be withdrawn.

Following the BC provincial policy framework, Ecofish assessed the proposed water withdrawal for both Lakelse Lake and the Lakelse River downstream. The results of the assessment are summarized below:

- There are currently ~50 water withdrawal licenses for domestic, irrigation, commercial, and water conservation uses on Lakelse Lake and its inflow tributary streams. Based on this

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[1] Chin, K., P. Little, K. Healey, and J. Kurtz. 2023. Environmental Flow Needs (EFN) Screening Level Assessment for Proposed Water Withdrawal for the Kitselas Geothermal Project. April 13, 2023.

[2] https://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/water-rights/efn_policy_jan-2022_signed.pdf.

existing licenced volume, Lakelse Lake and the Lakelse River are both currently ranked as Risk Level 1.

- Considering the proposed water withdrawal required for the drilling project, both Lakelse Lake and the Lakelse River will remain Risk Level 1 for all months. This means there is sufficient water available to provide for environmental flow needs as well as the proposed water diversion and use.

Our assessment concludes that the proposed temporary drilling program water withdrawals should have minimal effect on volume and timing of water in Lakelse Lake and the Lakelse River downstream. There will continue to be sufficient water for proper functioning of the aquatic ecosystems, for existing water licences, and for the proposed drilling program.

Yours truly,

Ecofish Research Ltd.
Permit to Practice: 1002952

Prepared by:

Signed

Scott Seifert, P.Eng., PMP
Project Manager

Reviewed by:

Signed

Jayson Kurtz, B.Sc., R.P.Bio., P.Biol.
Project Director

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