

SCIENTIFIC RESEARCH LICENSE

LICENSE NUMBER 03 007 25R-M

ISSUED TO: Anne-Marie LeBlanc
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TITLE: Talik Mapping and Models of Sub-Permafrost Groundwater-Surface Water Connectivity

OBJECTIVES OF RESEARCH:

Research is proposed to take place on lakes near Rankin Inlet and within the Meliadine Mine Facility (lakes and underground) for about two weeks in April and two weeks in September 2025. Proposed activities include Lake ice thickness measurements using an ice auger to validate remote sensing imagery and derived products on lake ice regime. The objective is to select areas where ice cover touches the lake bottom (bottom fast ice) and areas of floating ice. Collect water samples for chemical analyses at the bottom of lakes to refine our preliminary findings on groundwater input in lakes. Passive diffusion water samplers would be used. This instrument provides information on the amount and nature of dissolved gases found in the water. A similar device would be adapted to collect water/gases from underground boreholes (Meliadine Mine). Retrieve one small autonomous osmo sampler that we installed at the bottom of First Landing Lake to collect water samples over the past year.

TERMS & CONDITIONS:

The holder of the license will be bound by the terms and conditions of the Nunavut Impact Review Board Screening Decision Report (NIRB File # 23YN011) and the Department of Culture & Heritage archeological sites terms and conditions. These terms and conditions will form part of this license.

DATA COLLECTION IN NU:

DATES: April 1,2025 to December 31,2025

LOCATION: Rankin Inlet Area

Scientific Research License 03 007 25R-M expires on December 31,2025
Issued at Iqaluit, NU on January 29,2025

James Shirley
Science Advisor

