

SCIENTIFIC RESEARCH LICENSE

LICENSE # 02 019 26R-M

ISSUED TO: Christopher Omelon
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TEAM MEMBERS: A.Zerafa, D.Roche

AFFILIATION: Queen's University

TITLE: Impacts of Climate Change on Permafrost Ice, and Hydrology in the Canadian High Arctic

OBJECTIVES OF RESEARCH:

The purpose of this project is to continue scientific research that centres around understanding how current and future climate change is affecting tundra and polar desert landscapes. Our research objectives are: (1) to document changes in local climatic conditions including solar radiation, air temperature, relative humidity, winds, cloud cover, and the timing and magnitude of winter snowfall, spring snowmelt, and summer rainfall; (2) to measure seasonal active layer thickness and map the extent of permafrost, ground ice, and glaciers; (3) to assess how climate-induced changes affect the movement and quality of water; and (4) how these changes impact vegetation, soil microbiota, and associated greenhouse gas emissions. Linked to these objectives are the continued development and application of non-invasive shallow geophysical techniques and unmanned aerial vehicles as tools to document and monitor changes in permafrost, glaciers, surface and subsurface waters, and vegetation over time.

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 #07YN019) and the Department of Culture & Heritage archaeological sites terms and conditions. These terms and conditions will form part of this license.

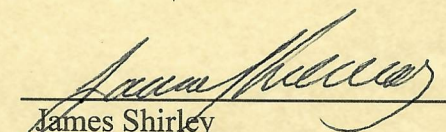
DATA COLLECTION IN NU:

DATES: June 20, 2026-July 31, 2026

LOCATION: Expedition Fiord, Strand Fiord, Whitsunday Bay

Scientific Research License 02 019 26R-M expires on December 31, 2026

Issued at Iqaluit, NU on April 27, 2026


James Shirley
Science Advisor

