

# Nunavummi Qaujisaqtulirijikkut / Nunavut Research Institute

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## SCIENTIFIC RESEARCH LICENSE

LICENSE # 02 027 19R-M

ISSUED TO: Wayne Pollard  
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TEAM MEMBERS: C. Omelon, D. Andersen, D. Lacelle, M. Ward, F. Amyot, 4 TBA

AFFILIATION: McGill University

TITLE: An Investigation of the Sensitivity of High Arctic Permafrost to Climate Change

### OBJECTIVES OF RESEARCH:

My 2019 field program will address focus on: (1) changes in the active layer depth and its impact on surface topography, (2) changes in ice wedge morphology and (3) analysis of the chemistry of massive ground ice and ice wedge ice. The latter collaborative work with D. Lacelle. The measurement of changes occurring in the active layer remains a key focus as well as identifying connections between the atmosphere, active layer and permafrost. Fieldwork is planned for the Expedition Fiord on Axel Heiberg Island and the Eureka area on Ellesmere Island. Our study sites were selected in 2012 and are representative of the most common ecosystems in this part of the Arctic. These sites were chosen because of their accessibility, availability of baseline data, and existing research facilities. This research will assess the sensitivity of key permafrost systems to warming by defining how surface temperature fluctuations influence the depth of the active layer and changes at the active layer permafrost interface

### TERMS & CONDITIONS:

The holder of this licence will be bound by the terms and conditions from the Nunavut Impact Review Board Screening Decision Report and per the Department of Culture & Heritage Archeological Sites terms and conditions. These terms and conditions will form part of this licence


### DATA COLLECTION IN NU:

DATES: April 01, 2019-August 30, 2019

LOCATION: Ellesmere Island, Axel Heiberg Island

Scientific Research License 02 027 19R-M expires on December 31, 2019

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*for*   
Mary Ellen Thomas  
Science Advisor

