

Project Title: A multidisciplinary study of glacial and periglacial processes on Axel Heiberg Island, Nunavut

Researcher's Name and Affiliation: Dr. Gordon Osinski, University of Western Ontario

Project Location: Buchanan Lake, Axel Heiberg Island (79° 24.416' N 87° 46.000' W)

Timeframe: From June 01, 2019, to August 15, 2019

Project Description: The overarching goal of this project is to enhance our understanding of glacial and periglacial processes in the Canadian High Arctic. This program will specifically focus on understanding glacial processes, subglacial processes (i.e., processes occurring beneath glaciers), and periglacial processes (i.e., processes distal from glaciers and/or due to freeze/thaw processes in unglaciated environments). A large number of highly qualified personnel will receive hands-on training in field techniques, instrumentation, project management, data collection and analysis, and in interpersonal communication and leadership.

Methodology: Primarily we will conduct surveys of glacial and related landforms to establish their size and shape among other geographical characteristics. Surveys will be conducted on foot, using drones, and other remote measurement techniques. These surveys will be augmented with areal and satellite data sources. A small number of water and soil samples will be collected for subsequent laboratory analysis to determine grain size and water chemistry.

Data and Reporting: Data collected on this expedition will include topographic data, water and soil samples, surface roughness, and field maps. These data will be processed to collect information such as slope and landform orientation data. Collected samples will be returned to the University of Western Ontario for grain size and chemical analyses. This data will result in several publications and student theses.