

**Project Title:** The beginning of an Era: characterizing the depositional environment of Earth's earliest eukaryotic life

**Researcher's Name and Affiliation:** Malcolm Hodgskiss (Stanford University), Olivia Dagnaud (McGill University)

**Project Location:** Belcher Islands

We are proposing to do geological fieldwork for scientific purposes between July 28 – August 23, 2017 on the Belcher Islands, as a continuation of work conducted there in 2016. The geologic time captured in the spectacularly preserved stratigraphy of the Belcher Islands is an interval of unique global change from 2.0-1.8 billion years ago. This record serves as a strong platform for collaborative research projects led by Stanford University and McGill University graduate students. The specific project aims are to characterize ocean and atmospheric chemistry across this approximately 200 million year interval. This will be achieved through geological mapping, and surface sampling of rocks for chemical analyses. Samples are typically 50-500 grams, and will be catalogued at Stanford University to be shared with other researchers upon request. Transportation from Sanikiluaq to camp locations, and between our 5 camp locations, will be accomplished by chartering a local boat from Sanikiluaq. While at the camps, work will be done on foot. Our camps will consist only of tents, which are erected and taken down upon our arrival and departure. There will be no structures or garbage left behind, in accordance with our strict zero footprint policy. All data and results from this research will be incorporated into Masters and PhD theses and scientific publications, and presented at international conferences. The theses and publications will be made available upon request, either as hard copies or electronically. We will also offer to present results from work conducted in the Belcher Islands in 2016 to local community members in Sanikiluaq this upcoming summer.