Project Title:
Arctic carbonates, sandstones and volcanic rocks, NW Ellesmere Island

Researchers names and affiliations:
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Steve Grasby, University of Calgary, Calgary, Alberta
Two or three student assistants to be named

Project Location:
The study area is located on Hvitland Peninsula, north of Otto Fiord, NW Ellesmere Island.

Timeframe:
June 15, 2013 to August 15, 2015

Project Description:

Purpose:
We will investigate different rock units of carbonate, sandstone and volcanic rocks that have recorded important interplay between large forces some 280 million years ago in the area now occupied by the Canadian Arctic. We will focus on an area of the Sverdrup Basin centered on NW Ellesmere Island, where this phenomenon is well displayed in outcrops.

Goals and objectives
The project will address four aspects of importance in the Sverdrup Basin:
1. **Carbonate units.** A focus of this project is to examine outcrops of large ancient reefs and surrounding rocks on NW Ellesmere Island.
2. **Sandstone units**. A focus of this project is to examine outcrops of sandstones on NW Ellesmere Island.
3. **Volcanic units.** A focus of this project is to examine outcrops of volcanic rocks on NW Ellesmere Island.
4. **Mapping.** A focus of this project is to map the various rock units and their structure on NW Ellesmere Island.

Method of transportation:
Twin Otter transportation from Resolute Bay to Eureka or strips designated by PCSP.
Helicopter transportation to study area. Walk from camp sites to outcrops

Structures to be erected:
The research team will be broken down into three small groups of two or three people.

Only two or three temporary personal tents will be erected at the different camp sites. No base camp will be erected.

Restoration/abandonment plans:
Each camp site will be restored to its original conditions. All garbage will be gathered and shipped back to Resolute.

Methodology:

Collection protocol and mechanism
About 50 small rock samples (less than 0.5 kg each) will be collected for geochemical and microscopic analysis. Samples will be collected with a geological hammer and will be catalogued and preserved in Calgary by the Geological Survey of Canada. No fossils will be collected.

Data:

Use of data:
In the short term, the data will be used in support of the work of the researchers and the graduate students. The data will then be published in peer-reviewed journals, after which it will be made publicly available through the GSC to anyone who wishes to use it.

Reporting
Five to ten peer-reviewed papers will result from this project. Report to the media and/or the communities will be provided upon request, including customized presentations, if there is an interest for our work.