

The Geological Survey of Canada through its Geo-Mapping for Energy and Minerals Program is planning a research project, the High Arctic Large Igneous Province Activity (HALIP) for the 2015 and 2016 summer field seasons. Most of the work would take place on Axel Heiberg Island and some on northern end of Ellesmere Island in 2015. A smaller camp of around 6 people would like to conduct any necessary follow up work in 2016.

The project will improve our knowledge of ancient volcanoes on Axel Heiberg Island. We want to know

- Why were there volcanoes at that time?
- Why did they start and why did they end?
- Were there times of more volcanoes and fewer volcanoes?
- What was the effect of volcanoes on resources such as oil and gas or minerals?
- How did the volcanoes relate to the formation of the Arctic Ocean?

The information and data created through this project will be publically available to communities, governments, industry professionals and to interested individuals. Information may also be used by Canada for the United Nations Convention on the Law of the Sea (UNCLOS) process for defining the northern extent of the country.

It is expected that the July 2015 fieldwork will take four weeks to complete and any remaining work not completed will take place during the 2016 field season. Several temporary 'fly camps' that will be used for one to two weeks will be needed and a main camp will be located at the Eureka weather station on Ellesmere Island. Small crews of two to six people will work out of each fly camp.

We will be collecting samples using two different processes. In one process, we walk in traverses and pick up small, fist-sized surface rock samples every few meters. In the second process, stream sediment samples will be collected at various sites and we will be collecting about At each site we will collect about 10 kilograms of sand, 500 grams of fine silt-sediments and a cup of water. Please see attached map for proposed sampling locations. As we get closer to the field work season, updated maps with more specific locations will be provided.

Transportation to and from the main camp at the Eureka weather station camps to field work locations will be by helicopter. Fly camps will be set up by helicopter and researchers will remain in the camps for several days to a few weeks at each site and travel by foot.

The work being proposed in the HALIP project will allow us to better understand the geology of the region and assess the potential for gas and oil. While there is no indication of mineral deposits in the area, as part of a typical geologic study, we will test for minerals during the analysis phase of the project but only from samples outside of the areas designated as recreational in the Draft Nunavut Land Use Plan.