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*By License Administrator at 3:41 pm, May 16, 2011*

## Project description

The contacts between different rock types can be difficult to match between the 110 oil exploration wells in the high Arctic Islands. This is because there are very few cores from each well, so there is little or no direct information on the rocks that were drilled. Analysis of the drill holes is mainly from indirect, geophysical, measurements of the rock such as their natural radioactivity.

This project aims to look at the contacts between rock types on where they are exposed on the surface. This allows geologists to get a much more accurate picture of the contact, the ancient environments that were present, and in some cases, fossils above and below the contact to establish the age of the rock. Thomas Hadlari and Ashton Embry, both from the Geological Survey of Canada would lead the activity. Field work is proposed between 2 July and 25 July, with a total of 9 people spending 10 days each in the field at various times during that period.

There are two main areas that we wish to go: Glacier Fiord, on southern Axel Heiberg Island (78° 38'N, 89° 48'W) where rocks about 130 to 80 million years old are exposed. This camp would consist of 5 people for about one week. They would measure the rock units and collect small samples through the section (about 50 grams) for chemical and fossil analysis.

The second area is around the Eureka weather station on Ellesmere Island. The geologists and helicopter would stay at the Eureka airport. Two field crews of two to four people would be set out by helicopter to visit rock exposures within 150 km of Eureka. This includes exposures along the coast south of Eureka (79° 42' 34"N; 85° 45' 53"W), the mountains east of Eureka (79° 45'N; 82° 56'), and north of Eureka (80° 49' N; 81° 49'W). In several cases, depending on weather, two person camps may be established for several days to reduce the amount of helicopter flying time. Several small (1 kg) samples may be collected at each site.

Field work is done using helicopter support, followed by walking and sampling using a trowel or small hammer. There is no drilling, motorized equipment or use of chemicals. Logistical support is provided by Polar Continental Shelf project in Resolute Bay.