

**Project Title:** Geology and hydrocarbon potential of Ellef Ringnes Island

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**Project Location:** Ellef Ringnes Island, Nunavut

**Timeframe:** Field work: June 28 – August 6, 2010

**Project Description:**

The purpose of this project is to update our understanding of the geology and hydrocarbon potential of Ellef Ringnes Island. The island was last mapped in 1967. A detailed geological map of the island will be produced. This map will be used to help re-interpret the seismic data that was collected in the 1970s and 1980s.

Field work will be from a temporary tent camp of about 20 people for one month, with a few days of setup and teardown at each end. Camp will be taken in to an existing airstrip using a Twin Otter. Transport on the island will be by Bell 205 helicopter supported by the Polar Continental Shelf Project. Water will be drawn from the nearby river (about 60 l/day), and human waste disposed of latrine. Waste will be incinerated and the non-combustible material removed by aircraft to Resolute for disposal.

A second season of field work is anticipated in 2011, with a crew of about 15 for 1 month. Field material will be cached over the winter of 2010-2011 and used again in 2011.

**Methodology:** Field work will be undertaken by 2-4 person crews supported by helicopter.

Crews will be set out for the day to traverse, examine outcrops on ridges and in river valleys, and to sample rocks. Rocks are collected by hand, usually 0.5-2 kg in size. These will be sent to Calgary and analyzed for their organic matter. Small samples of water or ice will be taken from creeks and springs to analyse for water quality (dissolved solids, microbes, chemistry).

Two to four person fly camps will be established for 4-6 days in areas of detailed work. This will cut down on the amount of flying.

**Data:** The data are most likely to be used by exploration companies looking for oil or gas. They would use our maps to choose areas that have the highest chances of finding oil or gas. The maps can also be used for planning future seismic programs. .

**Reporting:** A series of government reports and maps will be produced by the Geological Survey of Canada. These will be distributed to the Minerals and Petroleum Resources Division of the Department of Economic Development and Transportation, Government of Nunavut and to the Canada-Nunavut Geoscience Office. All reports are available for free download on the internet. Results will be discussed at the Yellowknife Geoscience Forum and at future Nunavut Petroleum Workshops (in Iqaluit).