

Nunavummi Qaujisaqtulirijikkut / Nunavut Research Institute

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SCIENTIFIC RESEARCH LICENSE

LICENSE # 02 046 17N-A

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TITLE: A Multidisciplinary Investigation of Salt Diapirs on Axel Heiberg Island, Nunavut

OBJECTIVES OF RESEARCH:

We propose a multidisciplinary investigation of salt diapirs on Axel Heiberg Island, Nunavut. Axel Heiberg Island is situated within the Sverdrup Basin, Nunavut, which is an intercratonic sedimentary trough containing at least 13 km of folded and faulted sedimentary rocks of the Innuitian Tectonic Province. At least 50 diapirs have been reported on Axel Heiberg Island. An understanding of the emplacement and evolution of salt diapirs is important for several reasons. First, salt diapirs elsewhere in the world represent prime traps for oil and gas and are also associated with lead and zinc mineral deposits – and there is the potential for such deposits on Axel Heiberg Island. Second, several of the salt diapirs on Axel Heiberg Island are host to perennial springs - the highest latitude such perennial springs on Earth. The Lost Hammer spring is the only documented methane seep in a cryoenvironment on Earth. Such springs offer important analogues for understanding how life may have evolved on Mars.

TERMS & CONDITIONS:

The holder of the licence will be bound by the terms and conditions of the Nunavut Impact Review Board Screening Decision Report and the Department of Culture & Heritage archaeological sites terms and conditions. These terms and conditions will form part of this licence.

DATA COLLECTION IN NU:

DATES: July 05, 2017-July 18, 2017

LOCATION: Axel Heiberg Island

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Mary Ellen Thomas
Science Advisor

