

## Accepted Manuscript

The Contact uranium prospect, Kiggavik project, Nunavut (Canada): tectonic history, structural constraints and timing of mineralization

Alexis Grare, Antonio Benedicto, Olivier Lacombe, Anna Trave, Patrick Ledru, Mario Blain, John Robbins

PII: S0169-1368(17)30435-3

DOI: <https://doi.org/10.1016/j.oregeorev.2017.12.015>

Reference: OREGEO 2435

To appear in: *Ore Geology Reviews*

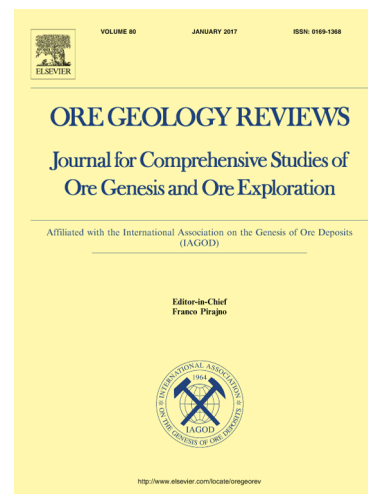
Received Date: 1 June 2017

Revised Date: 15 November 2017

Accepted Date: 11 December 2017

Please cite this article as: A. Grare, A. Benedicto, O. Lacombe, A. Trave, P. Ledru, M. Blain, J. Robbins, The Contact uranium prospect, Kiggavik project, Nunavut (Canada): tectonic history, structural constraints and timing of mineralization, *Ore Geology Reviews* (2017), doi: <https://doi.org/10.1016/j.oregeorev.2017.12.015>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



## The Contact uranium prospect, Kiggavik project, Nunavut (Canada): tectonic history, structural constraints and timing of mineralization

Alexis Grare<sup>a,b</sup>, Antonio Benedicto<sup>b,c</sup>, Olivier Lacombe<sup>a</sup>, Anna Trave<sup>d</sup>, Patrick Ledru<sup>b</sup>, Mario Blain<sup>b</sup>, John Robbins<sup>b</sup>,

<sup>a</sup> Sorbonne Universités, UPMC-CNRS-iSTeP, 4 place Jussieu. 75005 Paris. France

<sup>b</sup> AREVA Resources Canada Inc. 817-45th St West Saskatoon. SK S7L 5X2. Canada

<sup>c</sup> UMR Geops, Université Paris Sud, 91405 Orsay, France

<sup>d</sup> Universitat de Barcelona (UB), Departament de Mineralogia, Petrologia i Geologia Aplicada, Facultat de Ciències de la Terra. Carrer de Martí i Franquès s/n. 08028 Barcelona. Spain

### Abstract

Uranium mineralization in the Kiggavik area, on the eastern border of the Thelon basin (Nunavut, Canada), hosts significant uranium resources within the basement and its understanding is critical to comprehending the genesis of unconformity-related deposits' structural controls and therefore exploration of these types of deposits in this prospective district. This article deciphers the complex multiphase fracture network associated with uranium mineralization of the most recently discovered, basement-hosted prospect in the Kiggavik area, named Contact. The Contact prospect is located along the Andrew Lake Fault (ALF), a major NE-SW fault corridor in the area. This study combines field work, drillcore logging, sampling, and macro- to micro- petro-structural analyses. Key results from this study highlight that the NE-trending ALF, along with the ENE-trending Thelon (TF) and Judge Sissons (JSF) faults, formed early during intracratonic rifting and deposition of the Baker Lake and Wharton groups (ca. 1850–1750 Ma) in response to the Thelon and Trans-Hudsonian orogeny. The ALF was affected by a strong silicification-brecciation event that likely developed at ca. 1750 Ma, and partitioned later

**Abbreviations:** ASB: Aberdeen Sub-Basin. STZ: Snowbird Tectonic Zone. SLIC: Schultz Lake Intrusive Complex. ALF: Andrew Lake Fault. TF: Thelon Fault. MZF: Main Zone Fault. JSF: Judge Sissons Fault. QB: Quartz Breccia.

Download English Version:

<https://daneshyari.com/en/article/8909808>

Download Persian Version:

<https://daneshyari.com/article/8909808>

[Daneshyari.com](https://daneshyari.com)