

Riddell Faculty Seminar Series Presents:

# Disappearing diomignite and its petrologic implications

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**Date:** Friday, January 20<sup>th</sup>, 2017

**Time:** 1:30 p.m. - 3:00 p.m.

**Location:** Klaus Hochheim Theatre  
(5th floor, Wallace Building)

**Abstract:** Diomignite ( $\text{Li}_2\text{B}_4\text{O}_7$ ), the first mineral to be described solely as a daughter mineral in fluid inclusions, is discredited as a valid mineral species, and this discreditation has been approved by the IMA Commission on New Minerals Nomenclature and Classification (CNMNC). It will be shown that the evidence given in the original description (IMA 84-58) is circumstantial, incorrect or equivocal. Diomignite was reported to occur in virtually every crystal-rich inclusion in spodumene from the Tanco pegmatite (London et al. 1987). However, the analysis of 30 randomly selected crystal-rich inclusions in the purported type material deposited at the Smithsonian Institution, National Museum of Natural History (NMNH), 30 inclusions in the type material from the American Museum of Natural History (AMNH), and several hundred inclusions in self-collected samples, indicates that crystals of  $\text{Li}_2\text{B}_4\text{O}_7$  are absent in every inclusion examined. Because no holotype specimen exists, and a neotype specimen was not furnished by the surviving authors of the original description, the existence of diomignite could not be validated.

The name diomignite was derived from Homeric Greek, dios mignen, meaning divine mix, in allusion to the fluxing properties of  $\text{Li}_2\text{B}_4\text{O}_7$  on silicate-water systems. The discreditation of the divine mix, however, negates its alleged role in the internal evolution of Tanco pegmatite as proposed by London (1985, 1986, 1990, 2008).

**Biography:** Alan Anderson is currently the W.F. James Research Chair and professor of petrology and mineralogy at St. Francis Xavier University, Nova Scotia. He received a Ph.D in Geology from Queen's University and postdoctoral experience at the Fluids Research Laboratory, Virginia Tech. His research seeks to understand ore-forming processes in intrusion-related deposits and associated hydrothermal systems. To this end he has developed novel Hydrothermal Diamond Anvils Cells for in situ interrogation of melt and fluid systems under conditions of extreme temperature and pressure. While working on his M.Sc. degree at the University of Manitoba, Alan was infected with "Černýitis" – an incurable interest in granitic pegmatites. He continues to study the mineralogy and petrology of pegmatites from around the world.



12:00 p.m.

Free Pizza lunch for graduate students with Alan Anderson,  
Dean's office Boardroom - 440 Wallace Building.