

# Accepted Manuscript

Invited Review Article

Ore-Forming Processes Within Granitic Pegmatites

David London

PII: S0169-1368(18)30028-3

DOI: <https://doi.org/10.1016/j.oregeorev.2018.04.020>

Reference: OREGEO 2564

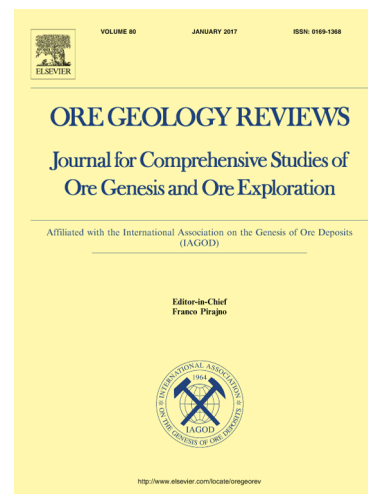
To appear in: *Ore Geology Reviews*

Received Date: 10 January 2018

Revised Date: 10 April 2018

Accepted Date: 19 April 2018

Please cite this article as: D. London, Ore-Forming Processes Within Granitic Pegmatites, *Ore Geology Reviews* (2018), doi: <https://doi.org/10.1016/j.oregeorev.2018.04.020>



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.

OGR Ore-Forming Processes within Granitic Pegmatites  
David London

## ORE-FORMING PROCESSES WITHIN GRANITIC PEGMATITES

David London

School of Geology & Geophysics, University of Oklahoma, Norman, OK 73019 USA (email:

dlondon@ou.edu)

### ABSTRACT

Pegmatites are texturally complex igneous rocks marked by some combination of coarse but variable crystal size, mineralogical zonation, prominent anisotropy of crystal orientations from the margins inward, and skeletal, radial, and graphic intergrowth habits of crystals. The vast majority of pegmatites are granitic in composition, and this article pertains to these rocks. Pegmatites occur as segregations near the roofward contact of their source pluton, as dike swarms emanating from their plutons into the surrounding igneous and metamorphic rocks, and as planar to lenticular intrusive bodies whose sources are not exposed. Granitic pegmatites are important economic sources of industrial minerals (feldspars, quartz, spodumene, petalite) for glass, ceramic, and electronic applications, of a wide variety of lithophile rare elements (Li, Cs, Be, Nb, Ta, Sn, etc.) that are incompatible in the predominant rock-forming minerals of granites, and of colored gemstones and valuable mineral specimens (of beryl, tourmaline, topaz, etc.).

All of the salient features of pegmatites – their mineral habits, distinctive rock fabrics, and spatial zonation of mineral assemblages, including monomineralic bodies – arise from appreciable liquidus undercooling (by  $\sim 200^\circ \pm 50^\circ\text{C}$ ) of viscous granitic liquids prior to the onset of crystallization. The ore-forming processes within granitic pegmatites are entirely

Download English Version:

<https://daneshyari.com/en/article/8909439>

Download Persian Version:

<https://daneshyari.com/article/8909439>

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