

THESE TERMS GOVERN YOUR USE OF THIS DOCUMENT

Your use of this electronic information product (“EIP”), and the digital data files contained on it (the “Content”), is governed by the terms set out on this page (“Terms of Use”). By opening the EIP and viewing the Content, you (the “User”) have accepted, and have agreed to be bound by, the Terms of Use.

EIP and Content: This EIP and Content is offered by the Province of Ontario’s *Ministry of Northern Development and Mines* (MNDM) as a public service, on an “as-is” basis. Recommendations and statements of opinions expressed are those of the author or authors and are not to be construed as statement of government policy. You are solely responsible for your use of the EIP and its Content. You should not rely on the Content for legal advice nor as authoritative in your particular circumstances. Users should verify the accuracy and applicability of any Content before acting on it. MNDM does not guarantee, or make any warranty express or implied, that the Content is current, accurate, complete or reliable or that the EIP is free from viruses or other harmful components. MNDM is not responsible for any damage however caused, which results, directly or indirectly, from your use of the EIP or the Content. MNDM assumes no legal liability or responsibility for the EIP or the Content whatsoever.

Links to Other Web Sites: This EIP or the Content may contain links, to Web sites that are not operated by MNDM. Linked Web sites may not be available in French. MNDM neither endorses nor assumes any responsibility for the safety, accuracy or availability of linked Web sites or the information contained on them. The linked Web sites, their operation and content are the responsibility of the person or entity for which they were created or maintained (the “Owner”). Both your use of a linked Web site, and your right to use or reproduce information or materials from a linked Web site, are subject to the terms of use governing that particular Web site. Any comments or inquiries regarding a linked Web site must be directed to its Owner.

Copyright: Canadian and international intellectual property laws protect the Content. Unless otherwise indicated, copyright is held by the Queen’s Printer for Ontario.

It is recommended that reference to the Content be made in the following form:

Zurevinski, S.E. and Crabtree, D.C. 2013. Mineralogical analyses of ijolites and related rocks, Mesoproterozoic Prairie Lake Carbonatite Complex, northwestern Ontario; Ontario Geological Survey, Miscellaneous Release—Data 310.

Use and Reproduction of Content: The EIP and the Content may be used and reproduced only in accordance with applicable intellectual property laws. *Non-commercial* use of unsubstantial excerpts of the Content is permitted provided that appropriate credit is given and Crown copyright is acknowledged. Any substantial reproduction of the Content or any *commercial* use of all or part of the Content is prohibited without the prior written permission of MNDM. Substantial reproduction includes the reproduction of any illustration or figure, such as, but not limited to graphs, charts and maps. Commercial use includes commercial distribution of the Content, the reproduction of multiple copies of the Content for any purpose whether or not commercial, use of the Content in commercial publications, and the creation of value-added products using the Content.

Contact:

FOR FURTHER INFORMATION ON	PLEASE CONTACT:	BY TELEPHONE:	BY E-MAIL:
The Reproduction of the EIP or Content	MNDM Publication Services	Local: (705) 670-5691 Toll-Free: 1-888-415-9845, ext. 5691 (inside Canada, United States)	Pubsales.ndm@ontario.ca
The Purchase of MNDM Publications	MNDM Publication Sales	Local: (705) 670-5691 Toll-Free: 1-888-415-9845, ext. 5691 (inside Canada, United States)	Pubsales.ndm@ontario.ca
Crown Copyright	Queen’s Printer	Local: (416) 326-2678 Toll-Free: 1-800-668-9938 (inside Canada, United States)	Copyright@gov.on.ca

These data are associated with:

Sage, R.P. 1987. *Geology of carbonatite – alkalic rock complexes in Ontario: Prairie Lake Carbonatite Complex, District of Thunder Bay*; Ontario Geological Survey, Study 46, 91p.

For information on purchasing all publications, including digital data, contact:

Publication Sales

Ministry of Northern Development and Mines

933 Ramsey Lake Rd., Level A3

Sudbury, Ontario P3E 6B5

Tel: 1-888-415-9845, ext. 5691 (toll-free inside Canada and the United States)

Tel: (705) 670-5691 (local calls)

Fax: (705) 670-5770

Users of OGS products are encouraged to contact those Aboriginal communities whose traditional territories may be located in the mineral exploration area to discuss their project.

Miscellaneous Release—Data 310

Mineralogical Analyses of Ijolites and Related Rocks, Mesoproterozoic Prairie Lake Carbonatite Complex, Northwestern Ontario

by

S.E. Zurevinski¹ and D.C. Crabtree²

¹Formerly of the Resident Geologist Program, Ontario Geological Survey, Thunder Bay District. Now at Department of Geology, Lakehead University, Thunder Bay, Ontario.

²Geoscience Laboratories, Ontario Geological Survey, Sudbury, Ontario.

This publication can be downloaded from

http://www.geologyontario.mndm.gov.on.ca/mndmaccess/mndm_dir.asp?type=pub&id=MRD310

This data release comprises the data set of electron microprobe analyses of garnet, clinopyroxene, nepheline, magnetite, wollastonite, and biotite from a variety of ijolites and related rocks from the Prairie Lake Carbonatite Complex. The Prairie Lake Carbonatite Complex (Mineral Deposit Inventory number MDI42E02SE00003 (Ontario Geological Survey 2013)) is located approximately 45 km northwest of Marathon, Ontario. The complex is part of a Mesoproterozoic Midcontinent Rift-related alkalic rock – carbonatite petrologic province north of Lake Superior, associated with the northern extension of the Trans Superior Tectonic Zone. The Prairie Lake Carbonatite Complex, approximately 8.8 km² in size, comprises carbonatite and carbonate-rich intrusive rocks along its periphery and ijolite-melteigite-urtite series rocks within its core. Orbicular ijolite occurs in bands or as dikes within medium-grained ijolite (UTM co-ordinates *approximately* 521300E, 5431400N, Zone 16, NAD83). This is the only known orbicular ijolite occurrence worldwide. This unique rock may provide clues about crystallochemical reactions that occurred during the later stages of emplacement and crystallization.

The collection and analysis of these samples were part of a study of the Prairie Lake Carbonatite Complex, which was published as Ontario Geological Survey Study 46 by R.P. Sage (1987), but the orbicular ijolite data were never published. Since this is the only orbicular ijolite occurrence known in the world, all specimens have been archived at the Royal Ontario Museum (ROM) in Toronto, Ontario (*see* Table 1 in the *MRD Tables Ijolite final.xlsx* Microsoft® Excel® file for sample identification numbers).

The Prairie Lake Carbonatite Complex study was part of a larger study of carbonatite complexes and alkalic intrusions conducted from 1974 to 1978 by the Ontario Geological Survey and published from 1985 to 1988 as Studies 30 to 53 by R.P. Sage.

Contents

Data in this release are contained within a single Microsoft® Excel® file: **MRD Tables Ijolite Final.xlsx**

The file **MRD Tables Ijolite Final.xlsx** contains the following 10 tables, accessible via the 10 worksheet tabs found along the bottom of the opened file window.

- Table 1: Sample identification (*from* Sage 1987)
- Table 2: Microprobe analysis of garnet in orbicular ijolite
- Table 3: Microprobe analysis of clinopyroxene in orbicular ijolite
- Table 4: Microprobe analysis of nepheline in orbicular ijolite
- Table 5: Microprobe analysis of magnetite in orbicular ijolite
- Table 6: Microprobe analysis of garnet in ijolite
- Table 7: Microprobe analysis of clinopyroxene in ijolite
- Table 8: Microprobe analysis of wollastonite in ijolite
- Table 9: Microprobe analysis of nepheline in ijolite
- Table 10: Microprobe analysis of biotite in ijolite

References

Sage, R.P. 1987. Geology of carbonatite – alkalic rock complexes in Ontario: Prairie Lake Carbonatite Complex, District of Thunder Bay; Ontario Geological Survey, Study 46, 91p.

Ontario Geological Survey 2013. Mineral Deposit Inventory—2013; Ontario Geological Survey.
http://www.geologyontario.mndm.gov.on.ca/mndmaccess/mndm_dir.asp?type=pub&id=MDI