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Miscellaneous Release—Data 368

Geology of the Mount Mollie Dike, Midcontinent Rift, Northwestern Ontario

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This publication can be downloaded from

http://www.geologyontario.mndm.gov.on.ca/mndmaccess/mndm_dir.asp?type=pub&id=MRD368

This digital data release includes lithogeochemical data from 101 field and drill-core samples of the Mount Mollie dike. The Mount Mollie dike is an arcuate, 60 to 350 m wide dike that extends for 35 km, mainly as a series of islands in Lake Superior. The Mount Mollie dike is part of the 1.1 billion-year-old Midcontinent Rift and was emplaced into the Paleoproterozoic Rove Formation, approximately 50 km south of Thunder Bay. A general description of the units sampled and their geochemistry, as well as a brief interpretation of the data are provided as a Microsoft® Excel® 2013 (.xlsx) spreadsheet and a portable document format (.pdf) file, respectively.

The data and interpretation presented in this publication are a summary of part of a two-year study aimed to petrogenetically characterize the Mount Mollie Dike both on surface and at depth and represent part of an unpublished Master of Science (MSc) thesis by the lead author at Lakehead University, Thunder Bay. Analytical support was provided by the Ontario Geological Survey (Project Unit (PU) 15-009). Analytical methods are described in detail in the Geoscience Laboratories (Geo Labs) brochure, which is included on this release as a PDF file. Additional funding was provided by Rio Tinto and awards from the Society of Economic Geologists Canada Foundation (SEGCF) Graduate Student Fellowship, Ontario Graduate Scholarship, Lakehead University's Northern Lake Superior Graduate Award, and Memorial University's Hugh Lilly Memorial Scholarship.

There are 4 files provided in this document.

MRD368_Readme.pdf – this document

MRD368_Geochemistry.xlsx – consists of 2 worksheets (listed below), containing the results of whole-rock geochemical analyses for each sample collected as part of this thesis study, performed at the Geoscience Laboratories (GeoLabs), Ontario Geological Survey, Sudbury. The methods used, lower detection limit for each method, and reported units for each method are included for each element (an oxide) listed. Also provided are rock types, and the sample location data or drill-hole collar location data (“Eastings”, “Northing”). UTM co-ordinates are provided in North American Datum 1983 (NAD83), Zone 16.

- “Geochemical Data” worksheet contains 101 whole-rock geochemical analyses.
- “Abbreviations” worksheet contains explanations of abbreviations used in the “Geochemical Data” worksheet.

MRD368_ Interpretation.pdf - provides a brief interpretation of the data collected as part of this thesis study.

2015 Geo Labs Brochure.pdf – the Ontario Geological Survey’s Geoscience Laboratories’ schedule of fees and services, providing information on the analytical methods used by Geo Labs for this study.