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Metsaranta, R.T. 2017. Lithogeochemical data, magnetic susceptibility data and outcrop photographs from the Winiskisis Channel, McFaulds Lake and Highbank Lake areas, “Ring of Fire” region, northern Ontario; Miscellaneous Release—Data 347.

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The data in this MRD are associated with the following publications:

Ontario Geological Survey Preliminary Map P.3804  
Geological Survey of Canada Open File 8200  
*Precambrian Geology of the Winiskisis Channel Area, "Ring of Fire" Region, Ontario—Northern Sheet,*  
scale 1:100 000.

Ontario Geological Survey Preliminary Map P.3805  
Geological Survey of Canada Open File 8201  
*Precambrian Geology of the McFaulds Lake Area, "Ring of Fire" Region, Ontario—Central Sheet,*  
scale 1:100 000.

Ontario Geological Survey Preliminary Map P.3806  
Geological Survey of Canada Open File 8202  
*Precambrian Geology of the Highbank Lake Area, "Ring of Fire" Region, Ontario—Southern Sheet,*  
scale 1:100 000.

Miscellaneous Release—Data 343  
*Geochronology, Mineral Deposit, Drill-core Relogging and Drill-Core Compilation Data from the Winiskisis Channel, McFaulds Lake and Highbank Lake areas, "Ring of Fire" Region, Northern Ontario*

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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.

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Miscellaneous Release—Data 347  
**Lithochemical Data, Magnetic Susceptibility Data and Outcrop Photographs from the Winiskisis Channel, McFaulds Lake and Highbank Lake Areas, "Ring of Fire" Region, Northern Ontario**

by R.T. Metsaranta<sup>1</sup>

This publication can be downloaded from  
[http://www.geologyontario.mndm.gov.on.ca/mndmaccess/mndm\\_dir.asp?type=pub&id=MRD347](http://www.geologyontario.mndm.gov.on.ca/mndmaccess/mndm_dir.asp?type=pub&id=MRD347)

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## Contents of the MRD

This digital release contains litho-geochemical data, magnetic susceptibility data, and outcrop photographs collected during the McFaulds Lake area mapping project (Project Unit 10-005) between June 2010 and February 2014.

This release includes 3 Microsoft® Excel® 2010 (.xlsx) workbook files and 1447 .jpeg files. One Excel® workbook, *MRD\_347\_Litho-geochemistry.xlsx*, includes, in the *Data* worksheet, a compilation of rock sample chemistry analyses, including specific gravity measurements, carried out at the Geoscience Laboratories, Ontario Geological Survey, along with associated sample descriptions and information. Other worksheets in this workbook, *Detection\_Limits1* and *Detection\_Limits2*, include information about detection limits for the different analytes, from 18 separate rock sample batch submissions to the Geoscience Laboratories. A second workbook, *MRD\_347\_Magnetic\_Susceptibility.xlsx*, includes magnetic susceptibility data collected from outcrops and drill core samples in, or near, the project area. A third workbook, *MRD\_347\_Outcrop\_Photos.xlsx*, provides information about the outcrop photographs taken during the project, which are contained in folder *MRD\_347\_Outcrop\_Photos*. This folder contains 212 subfolders housing photographs that are tied to the information in *MRD\_347\_Outcrop\_Photos.xlsx*. A total of 1447 photos as .jpeg files are contained in the release.

Users of the data should verify all critical information. Additional details on the spreadsheet and folder contents are given below.

### 1. MRD\_347\_Litho-geochemistry.xlsx

#### a. MRD\_347\_Litho-geochemistry.xlsx — worksheet *Data*

This excel workbook is a compilation of whole rock geochemical data collected during the McFaulds Lake project. It presents concentrations of various analytes in tabular format. For each analysis it also provides rock sample information including:

Column in Table	Explanation
Identifier	Identifier number for the row in the table
Job_Number	Geoscience Laboratories job number
Sample_Identifier	Sample number assigned by the author
DDH_Identifier or Station_Identifier	Drill-hole identifier or station identifier Additional information in (Metsaranta and Houle 2017a)
Qualifying Note	If “Y” see qualifying notes relating to Sample or Job number. Qualifying notes are summarized in a second worksheet in the spreadsheet
Outcrop or Diamond-Drill Hole	Identifies whether the sample is from drill core (ddh) or outcrop (oc)
Easting Collar	Easting (in metres) of drill-hole collar from which sample was taken, NAD 83 UTM Zone 16
Northing Collar	Northing (in metres) of drill-hole collar from which sample was taken, NAD 83 UTM Zone 16

COMPCODE	Basic type of rock sampled using the coding below: <ol style="list-style-type: none"> <li>1. Ultramafic metavolcanic rock</li> <li>2. Mafic to intermediate metavolcanic rock</li> <li>3. Intermediate to felsic metavolcanic rock</li> <li>4. Clastic metasedimentary rock</li> <li>5. Chemical metasedimentary rock</li> <li>6. Ultramafic intrusive rock</li> <li>7. Mafic intrusive rock</li> <li>8. Felsic to intermediate intrusive rock</li> </ol> md. Mafic dike
MAPCODE	Assigns sample to a map unit consistent with legend coding on Metsaranta and Houle (2017a, 2017b, 2017c, 2017d)
MMAPCODE	Same as MAPCODE but adds modifiers for unit 9 ( <i>see</i> Metsaranta and Houle (2017a, 2017b, 2017c, 2017d))
Field Rock Type	Rock name assigned when the sample was collected in the field
Field Sample Description	Rock description, if given, when sample was collected in the field
Petrographic Observations	Brief notes about the petrographic thin section of the sample, if available
DH_East (or outcrop easting)	Easting (NAD 83 UTM Zone 16) of outcrop sample or projected easting of DDH sample, in metres
DH_North (or outcrop northing)	Northing (NAD 83 UTM zone 16) of outcrop sample or projected northing of DDH sample, in metres
DH_RL	Elevation of DDH sample below 0 metres.
From (m)	Distance measured from the top of sampled, cored drill hole to the top of the sample, in metres
To (m)	Distance measured from the top of the sampled, cored drill hole to the bottom of the sample, in metres

Names of chemical analytes are consistent with Weatherston (1996). See *Method Code* worksheet for an explanation of the method codes used in the *Data* worksheet. Note that not every sample was analyzed by all methods. Abbreviations: wt%, weight percent oxide; ppm, parts per million; ppb, parts per billion. Less than symbol (<) indicates analyte was below the lower detection limit. Greater than symbol (>) indicates analyte was above the upper detection limit.

Note that samples were crushed in an agate mill, except for job 10-0336 for which an alumina ball mill was used.

Also note that acid digestions were performed in closed vessels.

**b. MRD\_347\_Lithogeochemistry.xlsx — worksheet *QC notes***

This worksheet provides information on any qualifying notes and/or comments from the Geoscience Laboratories regarding the samples listed in the *Data* worksheet. Information in these qualifying notes may have a bearing on the accuracy or precision of the data from that particular sample.

**c. and d. MRD\_347\_Lithogeochemistry.xlsx — worksheets *Detection\_Limits1* and *Detection\_Limits2***

These 2 worksheets provide the lower limits of detection for the various analytes, from the 18-sample submissions (Job Numbers) to Geoscience Laboratories. Worksheet *Detection\_Limits1* is organized by job number, whereas worksheet *Detection\_Limits2* is organized by method code.

**e. MRD\_347\_Lithogeochemistry.xlsx — worksheet *Method\_Codes***

This worksheet provides explanation of the method codes used in the data worksheet, as well as abbreviations and other information related to the analytical procedures. More information on the analytical methods used by Geoscience Laboratories are outlined in the Geoscience Laboratories brochure (*2015 Geo Labs Brochure.pdf*), also included in this MRD.

**2. MRD\_347\_Magnetic\_Susceptibility.xlsx**

This spreadsheet provides drill core and outcrop magnetic susceptibility data. COMPCODE, MAPCODE, and MMAPCODE columns are the same as explained for *MRD\_347\_Lithogeochemistry.xlsx*. The table identifies if the measurement is from core or outcrop. Ten individual readings, an average and a standard deviation are provided for each measurement. The column *Rock\_Type* provides a rock name consistent with the generalized rock names used in other OGS magnetic susceptibility data releases and compilations. Location data (NAD 83, UTM Zone 16, metres) are provided for drill-hole collars, projected drill-core measurement locations and relative elevations and outcrop measurement locations.

**3. MRD\_347\_Outcrop\_Photos.xlsx**

This spreadsheet provides information about outcrop photographs taken during the McFaulds Lake area mapping project. The actual photographs are provided in *.jpeg* format in the *MRD\_347\_Outcrop\_Photos* folder, in subfolders names according to *Station\_ID*. Columns in the spreadsheet are explained below:

Column in Table	Explanation
Identifier	Identifier number for the row in the table
Station_Identifier	Identifier number for mapped outcrop station
Photo_Identifier	<i>.jpeg</i> file name of the photograph
Map Code	Map unit coding of outcrop station from Metsaranta and Houlé 2017b, 2017c or 2017d)
Easting	Easting in metres (NAD 83, UTM Zone 16)
Northing	Northing in metres (NAD 83, UTM Zone 16)
Scale	Object in photograph that provides a relative sense of scale

Direction	Approximate direction the photograph faces, or the orientation of object used for scale in the photo. N - north, S - South, W - West, E - East. Pens and markers used for scale are in general oriented such that their working ends point north. Hammers used for scale typically have the handle end pointing north. The compass used for scale typically has sighting arm pointing north.
Description	Brief description of geological features in the photo

### MRD\_347\_Outcrop\_Photos (Folder)

Folder containing 212 subfolders with names corresponding to “Station\_ID” column in *MRD\_347\_Outcrop\_Photos.xlsx*. These subfolders contain outcrop photographs. The numbered *.jpeg* files inside each subfolder also have a corresponding column, “Photo\_Identifier”, in the spreadsheet *MRD\_347\_Outcrop\_Photos.xlsx*.

### References

- Metsaranta, R.T. and Houlé, M.G. 2017a. Geochronology, mineral deposit, drill-core relogging and drill-core compilation data from the Winiskisis Channel, McFaulds Lake and Highbank Lake areas, “Ring of Fire” region, northern Ontario; Ontario Geological Survey, Miscellaneous Release—Data 343.
- Metsaranta, R.T. and Houlé, M.G. 2017b. Precambrian geology of the Winiskisis Channel area, “Ring of Fire” region, Ontario—northern sheet; Ontario Geological Survey, Preliminary Map P.3804; Geological Survey of Canada, Open File 8200, scale 1:100 000. doi: 10.4095/299708
- Metsaranta, R.T. and Houlé, M.G. 2017c. Precambrian geology of the McFaulds Lake area, “Ring of Fire” region, Ontario—central sheet; Ontario Geological Survey, Preliminary Map P.3805; Geological Survey of Canada, Open File 8201, scale 1:100 000. doi: 10.4095/299711
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- Rayner, N. and Stott, G.M. 2005. Discrimination of Archean domains in the Sachigo Subprovince: A progress report on the geochronology; *in* Summary of Field Work and Other Activities 2005, Ontario Geological Survey, Open File Report 6172, p.10-1 to 10-21.
- Weatherson, A.J. 1996. OGS editorial guide; Ontario Geological Survey, Miscellaneous Paper 165, 132p.