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Gemmell, T.P. and Szumylo, N. 2020. Geological, geochemical, geophysical and geochronological data related to Marion and Mallard townships and part of Genoa Township, Swayze area, southern Abitibi greenstone belt; Ontario Geological Survey, Miscellaneous Release—Data 377.

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These data accompany:

Preliminary Map P.3827, *Precambrian Geology of Marion and Mallard Townships and Part of Genoa Township, Southeastern Swayze Area, Abitibi Greenstone Belt, Northeastern Ontario*.

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Miscellaneous Release—Data 377

Geological, Geochemical, Geophysical and Geochronological Data Related to Marion and Mallard Townships and Part of Genoa Township, Swayze Area, Southern Abitibi Greenstone Belt

by T.P. Gemmel and N. Szumylo

This publication can be downloaded from

http://www.geologyontario.mndm.gov.on.ca/mndmaccess/mndm_dir.asp?type=pub&id=MRD377

This digital data release contains field data, field photographs, whole-rock geochemical data, geochronological information, and magnetic susceptibility data related to 1:20 000 scale mapping of the Mallard and Marion townships and part of Genoa Township area in the southeastern Swayze area (Project NE-18-002) during the summer of 2018. This release comprises 131 photographs (as .jpg files), 7 Microsoft® Excel® for Office 365 (.xlsx) workbook files and 4 documents in portable document format (.pdf). Also included, in portable document format (.pdf), are 2 previously published *Summary of Field Work* articles and 1 poster presentation to the public related to the project. These data augment Preliminary Map P.3827, *Precambrian Geology of Marion and Mallard Townships and Part of Genoa Township, Southeastern Swayze Area, Abitibi Greenstone Belt, Northeastern Ontario*; the geological legend for the map is also provided.

The authors would like to acknowledge the bedrock geology mapping conducted by Blake Mowbray during the 2018 field season that is contained herein (i.e., stations identified with the prefix “18BM”).

Data are organized into 6 folders, 1 of which has 1 subfolder:

1. Field Data
2. Geochemistry
3. Geochronology
4. Geology and Photographs
 - Field Photos
5. Geophysics
6. Poster and Publications

1. Field Data. This folder contains 3 Microsoft® Excel® for Office 365 (.xlsx) files.

MRD377_SE-Swayze_Lithology_field notes.xlsx consists of 4 worksheets.

These worksheets, separated into different rock types, provide the lithological descriptions for all rocks mapped in the area during the summer of 2018.

“Volcanic Flows” worksheet contains descriptive information for observations of 226 lithologies.

“Pyroclastic Volcanic Rocks” worksheet contains descriptive information for observations of 78 lithologies.

“Metasedimentary Rocks” worksheet contains descriptive information for observations of 31 lithologies.

“Intrusive Rocks” worksheet contains descriptive information for observations of 249 lithologies.

MRD377_SE-Swayze_Stations_field notes.xlsx consists of 2 worksheets.

These worksheets contain the location data (“Easting” and “Northing”) for each station; the Universal Transverse Mercator (UTM) co-ordinates are provided in North American Datum 1983 (NAD83), Zone 17. For explanations about rock codes, see “*P3827_Legend.pdf*” in the folder “Geology”.

“Stations” worksheet provides station locations with accompanying GPS location quality data, a summary of corresponding field rock codes (as published on Preliminary Map P.3827), representative photograph(s) (as provided in the folder “Geology”), geochemistry sample numbers (with data provided in the folder “Geochemistry”) and geochronology sampling sites (with data provided in the folder “Geochronology”).

“Outcrops” worksheet provides the outcrop stations with their accompanying rock codes.

MRD377_SE-Swayze_Structure_field notes.xlsx consists of 1 worksheet.

“Structure” worksheet contains 173 structural measurements and notes from mapping during the summer of 2018.

2. Geochemistry. This folder contains 1 Microsoft® Excel® for Office 365 (.xlsx) file and 1 portable document format (.pdf) file.

MRD377_SE-Swayze_Geochemistry.xlsx consists of 1 worksheet.

This worksheet also contains sample identification, “Rock Type” for each sample collected and the station and station location data (“Easting”, “Northing”, and “Township”); UTM co-ordinates are provided in North American Datum 1983 (NAD83), Zone 17.

“Geochemical_Data” worksheet contains 194 whole-rock geochemical analyses acquired from samples collected as part of this study during the summer of 2018. The geochemical analyses were performed at the Geoscience Laboratories (Geo Labs), Ontario Geological Survey, Sudbury. The methods used, lower detection limit for each method, and reported units for each method are included for each element (and oxide) listed. The methods are described in more detail in the accompanying file and “*2019 Geo Labs Brochure.pdf*”.

2019 Geo Labs Brochure.pdf describes the analytical methods used at the Ontario Geological Survey Geoscience Laboratories.

3. Geochronology. This folder contains 1 Microsoft® Excel® for Office 365 (.xlsx) file.

MRD377_SE-Swayze_Geochronology.xlsx provides information about geochronological samples presented on Map P.3827. Sample location data provided as UTM co-ordinates in North American Datum 1983 (NAD83), Zone 17.

4. Geology and Photographs. This folder contains 1 portable document format (.pdf) file, 1 Microsoft® Excel® for Office 365 (.xlsx) file and 1 subfolder “**Field Photos**” with 131 field photographs (as .jpg files).

P3827_Legend.pdf is the general legend used as the base for Ontario Geological Survey Preliminary Map P.3827, *Precambrian Geology of Marion and Mallard Townships and Part of Genoa Township, Southeastern Swayze Area, Abitibi Greenstone Belt, Northeastern Ontario* (Gemmell, Szumylo and Mowbray 2018). Material in the field data and the photograph description files are cross-referenced to rock codes in this legend.

MRD377_SE-Swayze_Photo Descriptions.xlsx consists of 1 worksheet, which provides the station identification and location, the rock code (as provided in “*P3827_Legend.pdf*”), a brief photo description and identifies the scale used in and orientation of the photo. Photo file names for the *.jpg* files are based on year, station number and lithologies, e.g., 18TG008A is photograph number 1 at station TG008 of lithology A in 2018. Station location information is provided in UTM co-ordinates, NAD83, Zone 17.

5. Geophysics. This folder contains 1 Microsoft® Excel® for Office 365 (*.xlsx*) file.

MRD377_SE-Swayze_Magnetic Susceptibility.xlsx contains 1 worksheet.

“MagSus_Data” worksheet provides magnetic susceptibility data from the study area collected during the summer of 2018.

Measurements were collected using Exploranium® KT-10 magnetic susceptibility meters. Magnetic susceptibility is defined as the degree to which a substance can be magnetized and, in this case, is expressed as the ratio of the intensity of magnetization (k) to the ratio of the Earth’s magnetic field to magnetic field induced by the susceptibility meter. The readings (k) are expressed as 10^{-3} times the SI unit for susceptibility and are dimensionless. The minimum value that can be recorded by the meter is 0.001×10^{-3} SI units; the largest value is 999×10^{-3} SI units. Sample location information is given in UTM co-ordinates, NAD83, Zone 17.

6. Poster and Publications. This folder contains 3 portable document format (*.pdf*) files that are publications associated with this project.

MRD377_OPES-2019.pdf is an excerpt from a poster, “Southern Swayze Mapping Project”, presented at the 2019 Ontario Prospectors Exploration Showcase (OPES) in Thunder Bay, on April 2–3, 2019.

MRD377_SoFW2017-08_Gemmell-Mowbray.pdf: An article (Gemmell and Mowbray 2017), published in the Ontario Geological Survey *Summary of Field Work and Other Activities, 2017* volume, outlining the activities and results of field work for a related project (Project NE-17-002) during the summer of 2017.

MRD377_SoFW2018-08_Gemmell-Szumylo-Mowbray.pdf: An article (Gemmell, Szumylo and Mowbray 2018), published in the Ontario Geological Survey *Summary of Field Work and Other Activities, 2018* volume, outlining the activities and results of field work for this project (Project NE-18-002) during the summer of 2018.

References

Gemmell, T.P. and Mowbray, A.B. 2017. Preliminary interpretation of the geology and base metal potential of the Doré Road–Foleyet Timber Road transect, Swayze area, Abitibi greenstone belt; *in* Summary of Field Work and Other Activities, 2017, Ontario Geological Survey, Open File Report 6333, p.8-1 to 8-13.

Gemmell, T.P., Szumylo, N. and Mowbray, A.B. 2018. Preliminary geology and mineral potential of Mallard and Marion townships and part of Genoa Township, Swayze area, Abitibi greenstone belt; *in* Summary of Field Work and Other Activities, 2018, Ontario Geological Survey, Open File Report 6350, p.8-1 to 8-8.

——— 2019. Precambrian geology of Marion and Mallard townships and part of Genoa Township, southeastern Swayze area, Abitibi greenstone belt, northeastern Ontario; Ontario Geological Survey, Preliminary Map P.3827, scale 1:20 000.