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Preliminary Map P.3762, *Precambrian Geology, South of Gogama Area*.

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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.

Miscellaneous Release—Data 292

Geology, Petrography, Geochemistry and Photographs of the South of Gogama Area

by B.R. Berger

This digital release contains geochemical data and photographs hyperlinked to a geodatabase in ESRI® ArcGIS® 9.3 format on a Ministry of Natural Resources digital base map. The geochemical analyses and petrography are also provided as a Microsoft® Excel® (.xls) spreadsheet and (.csv) file. Rare earth element (REE) and extended element plots are provided in .jpg format and are hyperlinked to the base map. The geochemical plots were generated using IgPet 2008, Terra Softa Inc. software. Digital photographs are provided in .jpg format. Location data are provided in Universal Transverse Mercator (UTM) projection and grid system, zone 17, North American Datum 1983 (NAD83).

This publication can be downloaded from

http://www.geologyontario.mndm.gov.on.ca/mndmaccess/mndm_dir.asp?type=pub&id=MRD292

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DESCRIPTION OF THE CONTENT

The contents of MRD 292 are organized into folders based on data type. Folder names indicate the data type contained in each folder. The “readme” and “metadata” files are located in the root directory. The data can be transferred to the local computer’s hard drive, but it is very important to retain the folder names and file structure. The map documents are dependent upon the current file structure. The entire project folder can reside anywhere on the computer.

Data are organized into the following 5 folders:

1. Fonts and Styles
2. Geochemistry_spreadsheets
3. Geodatabase
4. Photos
5. Shapefiles

Petrography and Geochemistry Tables

The geochemistry and petrography tables are provided in 3 file formats: .csv (comma separated values), .txt (text document) and .xls (Microsoft®Excel® 2003 worksheet), and are located in the “Geochemistry_spreadsheets” folder

There are also rare earth elements (REE) and extended element plots that are related to the GEOCHEMISTRY feature class. The plots are in .jpg file format and are located in the PHOTOS folder. You can access them from ArcMap®, using the Hyperlink tool on the Tools toolbar. The geochemical plots were constructed using IgPet 2008, version 3.3.0176, Terra Softa Inc.

Photographs

Colour digital photographs of rocks are provided as .jpg files and are stored in the PHOTOS folder, in a subfolder bearing the Station Number. This number relates to a point feature class (STATION) in the geodatabase. You can access the photos from ArcMap®, using the Hyperlink tool on the Tools toolbar.

GIS Map Files

MAP PROJECTIONS, SCALE AND BASE MAP INFORMATION

This file contains a complete set of data in UTM Projection, Zone 17, using North American Datum 1983 (NAD83). The database was compiled from data at 1:20 000 scales. The scale of the compilation is 1:50 000. The digital base map was derived from data downloaded from Ontario Land Information Warehouse, Land Information Ontario with modifications by staff of the Ministry of Northern Development and Mines.

a) Description of Geodatabase Data Sets (folders) and Feature Classes (shapefiles)

ANNOTATION:

COMMODITY	mineral occurrence labels
DIP	dip values for structure points
FAULT_NAMES	fault labels
LEADER_LINES	leader lines for map codes
PLACE_NAMES	road numbers, township names, river names, lake names
PROPERTY_NUMBERS	number refers to the Companies owning properties, as listed on map face
ROCK_CODES	rock type labels

COMPILED DATA:

COMPILED_OUTCROPS	(polygon) location of compiled outcrops
COMPILED_STATIONS	(point) location of compiled stations
PROPERTIES	This layer is not symbolized on map. It is a point file containing a table listing the companies who own some properties shown on map with by property numbers

FIELD DATA:

MINERALISATION	location of mineral occurrences
OUTCROP	(polygon) location of field outcrops
STATION	point symbol of stations
STRUCTURE	point structure symbols

GEOCHEMISTRY:

South_Gogama_geochemistry	Geochemistry
South_Gogama_Petrography	Petrography

GEOLOGY:

GEOPOLY	lithology polygons
LITHOLOGY_LINES	contacts, dikes
NEATLINE	
RIDEOUT_FAULT_BOUND	Line feature outlining the fault zone
RIDEOUT_FAULT_ZONE	polygon feature representing the fault zone
STRUCTURE_LINE	faults

TOPO DATA:

GEOTWPIM	townships
MAPLIMIT	
ORN_ROADS	roads
RAILWAY	railroads
TRAILS	trails
UTILITY	utility lines
DRAINAGE_LINE	Rivers
DRAINAGE_POLY	Lakes
RAILROAD	railroads

b) Description of the Map Document (.mxd) files:

1. Gogama_MRD.mxd requires ArcGIS® 9.3 and references data housed in a geodatabase.
2. Gogama_MRD_Shapefile.mxd requires ArcGIS® 8.3 and only references data housed in shapefiles.

Using Data with ArcGIS® 9.3

The map documents provide a thematic representation of all associated data. Geology polygons are, for example, coloured according to lithology, and geological line features are symbolized as per OGS standards.

Users with ArcGIS® 9.3 have access to a map document (.mxd) which references the data in geodatabase format (Gogama_MRD.mxd). Users with ArcGIS® 8.3 have access to a map document (Gogama_MRD_Shapefile.mxd) which only references the data in shapefile format.

Using Data with Earlier versions of ESRI® Software:

Users with older versions of ArcGIS® or ArcView® 3.x can work with the shapefile data in MRD 292, but the map documents or projects will have to be reconstructed. Users will then have to manually symbolize all data in these shapefiles. The lithology polygons (GEOPOLY shapefile in the Geology folder) can be manually coloured using the colour chart below. The rock code relates to the lithological unit; see lithological descriptions in the Geology Legend section of this document.

To display geology polygons (litho-polygon):

- right click GEOPOLY/properties/symbology
- select show/categories/unique values
- select 'ROCK_CODE' as the value field and hit 'add all values'
- change the colour boxes for each lithology with the r/g/b values in the table below, double-click a colour box/fill colour/more colours and enter in the r/g/b values.

ROCK_CODE	RED	GREEN	BLUE
1	74	193	50
2	204	255	153
3	255	252	176
4	222	222	222
5	82	224	250
6	171	255	255
7	255	222	230
8	255	179	128
9	255	179	128
10	217	179	128
11	214	140	110
12	199	91	62

GEOLOGICAL LEGEND

SOUTH OF GOGAMA AREA^{abc}

PHANEROZOIC

CENOZOIC

QUATERNARY

RECENT

Lake, stream, wetland deposits

PLEISTOCENE

Glacial, glaciofluvial and glaciolacustrine deposits; sand, gravel, clay, till

UNCONFORMITY

PRECAMBRIAN

PROTEROZOIC

MESOPROTEROZOIC

Mafic Intrusive Rocks

- 12 **Sudbury dike swarm:** olivine gabbro

INTRUSIVE CONTACT

PALEOPROTEROZIC

Mafic Intrusive Rocks

- 11 **Biscotasing Dike Swarm**
11a Gabbro to quartz gabbro

INTRUSIVE CONTACT

- 10 **Matachewan Dike Swarm**
10a Aphyric quartz gabbro
10b Plagioclase phyrical quartz gabbro, >1% plagioclase phenocrysts

INTRUSIVE CONTACT

ARCHEAN NEOARCHEAN

Intermediate and Felsic Intrusive Rocks

- 9 **Ramsay–Algoma Terrane**
9a Biotite granodiorite to tonalite
9b Biotite + amphibole granodiorite
9c Biotite + amphibole + magnetite granodiorite
9d Medium grained
9e Coarse grained
9f Xenolithic

INTRUSIVE CONTACT

- 8 **Kenogamissi Batholith**
8a Biotite tonalite
8b Biotite + amphibole tonalite
8c Biotite granodiorite
8d Biotite + amphibole granodiorite
8e Amphibole quartz monzonite to granodiorite
8f Quartz-potassium feldspar megacrystic granite
8g Foliated
8h Gneissic
8i Xenolithic
8j Granite: aplite and/or pegmatite
8k Magnetite bearing

INTRUSIVE CONTACT

Metamorphosed Mafic, Intermediate and Felsic Intrusive Rocks of the Chester Intrusive Complex

7 Felsic Intrusive Rocks

- 7a Biotite tonalite
- 7b Biotite + amphibole tonalite
- 7c Granodiorite
- 7d Chlorite bearing
- 7e Coarse grained
- 7f Quartz porphyritic
- 7g Intrusion breccia
- 7h Dikes
- 7i Schistose^{de}
- 7k magnetite bearing

GRADATIONAL AND INTRUSIVE CONTACT

6 Intermediate Intrusive Rocks

- 6a Quartz diorite to gabbro
- 6b Diorite and/or gabbro
- 6c Monzodiorite, with possibly hematite-stained feldspar
- 6f Intrusion breccia
- 6g Dikes

GRADATIONAL AND INTRUSIVE CONTACT

5 Mafic Intrusive Rocks

- 5a Gabbro and/or diorite
- 5b Hornblende gabbro
- 5c Pegmatitic
- 5e Coarse grained
- 5g Intrusion breccia
- 5h Dikes

INTRUSIVE CONTACT

Metasedimentary and Metavolcanic Rocks

4 Clastic Metasedimentary Rocks (Timiskaming Assemblage)

- 4a Conglomerate: boulders and cobbles, clast supported
- 4b Pebbly sandstone, matrix supported
- 4c Sandstone, arkosic sandstone, arenite
- 4d Siltstone and mudstone
- 4e Schistose^e

3 Felsic Metavolcanic Rocks

- 3a Flows, autoclastic flow breccia
- 3b Lapilli tuff, tuff
- 3c Tuff breccia, breccia
- 3d Quartz porphyritic
- 3e Spherulitic
- 3f Hydrothermal breccia, with magnetite-chlorite veining
- 3g Schistose^e

2 Intermediate Metavolcanic Rocks

- 2a Flows, pillowed
- 2b Lapilli tuff, tuff
- 2c Tuff breccia, breccia
- 2d Volcanogenic sandstone to siltstone
- 2e Amygdaloidal
- 2f Feldspar ± amphibole phenocrystic
- 2g Schistose^e
- 2h Amphibolite
- 2j Flow breccia

1 Mafic Metavolcanic Rocks

- 1a Flows, massive
- 1b Flows, pillowed
- 1c Tuff
- 1d Amygdaloidal
- 1e Feldspar ± amphibole phenocrystic
- 1f Schistose^e
- 1g Amphibolite
- 1h Gneissic

^aThis is a field legend and may change due to subsequent laboratory work.

^bThe letter "C" preceding a code refers to data compiled from existing maps and from maps filed for assessment work credits and available for viewing at the Timmins Resident Geologist's Office and from GeologyOntario website. The letter "G" preceding a code refers to data interpreted from geophysical data.

^cRocks codes designated with a "/" (e.g., 3/2) indicate that the lithology may contain both rock types but the first number code is inferred to predominate.

^dParts of this rock may be extrusive.

^eThis term is used to describe an intensely foliated rock; assignment to a protolith is speculative.

SOURCES OF INFORMATION

Carter, M.W. 1978. Connaught and Churchill townships, Sudbury District; Ontario Geological Survey, Map 2414, scale 1:31 680.

Heather, K.B. 2001. The geological evolution of the Archean Swayze greenstone belt, Superior Province, Canada; unpublished PhD thesis, Keele University, Keele, England, 370p.

Johns, G.W. 2000. Precambrian geology, Shining Tree area (west half); Ontario Geological Survey, Preliminary Map P.3420, scale 1:30 000.

Siragusa, G.M. 1982. Precambrian Geology, Pensyl Lake area, Sudbury District; Ontario Geological Survey, Preliminary Map P.2534, scale 1:15 840.

Siragusa, G.M. 1983. Precambrian geology, Brunswick Township, Sudbury District: Ontario Geological Survey, Preliminary Map P.2606, scale 1:15 840.

Digital base map information is derived from the Ontario Land Information Warehouse, Land Information Ontario, Ontario Ministry of Natural Resources, scale 1:20 000, with modifications by staff of the Ministry of Northern Development and Mines.

Map co-ordinates are in UTM zone 17, NAD 83.

Files of the Timmins Resident Geologist's Office, and *GeologyOntario* website.

Metric conversion factor: 1 foot = 0.3048 m.

Geology not tied to surveyed lines.

Magnetic declination approximately 10° 9' W in 2012.

CREDITS

Geology by B. Berger 2012.

To enable the rapid dissemination of information, this map has not received a technical edit. Discrepancies may occur for which the Ontario Ministry of Northern Development and Mines does not assume liability. Users should verify critical information. Sources include both the references listed here, and information on file at the Resident Geologist's Office and the Mining Recorder's Office nearest the map area.