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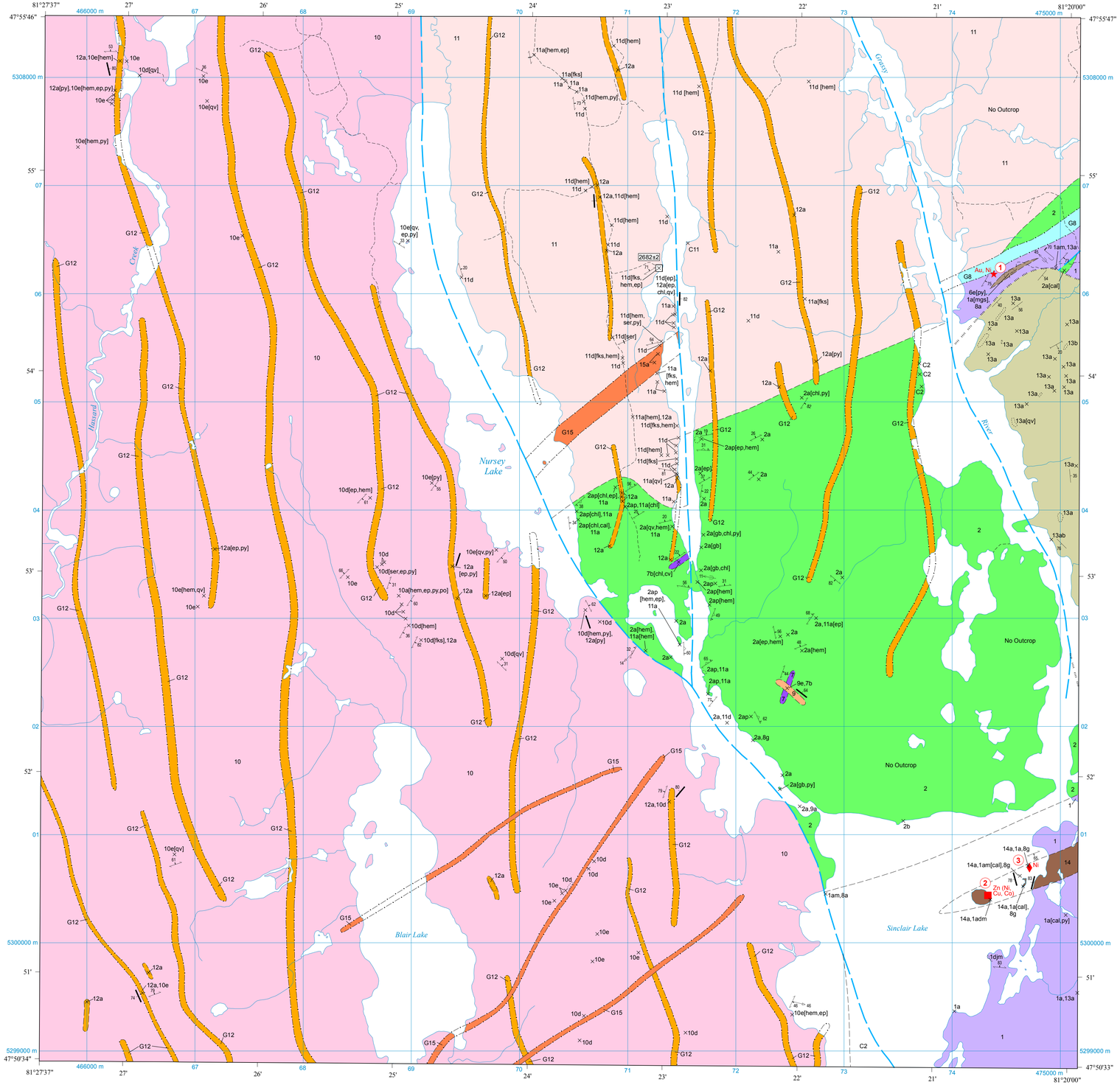

LEGEND[abc]

PHANEROZOIC

CENOZOIC

QUATERNARY

PLEISTOCENE AND RECENT

Unconsolidated sandy till, glaciofluvial sand and gravel

UNCONFORMABLE CONTACT

PRECAMBRIAN

PROTEROZOIC

PALEOPROTEROZOIC

15 — Mafic Intrusive Rocks[d] (Biscotasing Dike Swarm) (2167 Ma)
15a Gabbro, northeast-trending dikes

14 — Mafic Intrusive Rocks[d] (Nipissing Gabbro Suite) (2219 to 2210 Ma)
14a Gabbro

INTRUSIVE CONTACT

HURONIAN SUPERGROUP (2450 to 2219 Ma)

13 — Gowganda Formation (~2300 Ma)
13a Conglomerate
13b Sandstone

UNCONFORMABLE CONTACT

12 — Mafic Intrusive Rocks[d] (Matachewan Dike Swarm) (2454 Ma)
12a Gabbro, north-northwest-trending dikes

INTRUSIVE CONTACT

ARCHEAN

NEOARCHEAN

11 — Felsic Intrusive Rocks
11a Granite, hornblende ± biotite
11d Granodiorite, hornblende ± biotite

10 — Intermediate to Felsic Intrusive Rocks
10a Granite, biotite ± hornblende
10d Granodiorite, biotite ± hornblende
10e Tonalite, biotite ± hornblende

9 — Intermediate Intrusive Rocks
9a Diorite
9e Syenite

8 — Mafic Intrusive Rocks
8a Gabbro
8g Mafic lamprophyre

7 — Ultramafic Intrusive Rocks
7b Peridotite

INTRUSIVE CONTACT

6 — Clastic Metasedimentary Rocks
6e Volcanogenic ultramafic-bearing debris flow

5 — Chemical Metasedimentary Rocks

4 — Felsic Metavolcanic Rocks

3 — Intermediate to Felsic Metavolcanic Rocks

2 — Mafic Volcanic Rocks
2a Massive flows
2b Pillowed flows
2p Gneissic

1 — Ultramafic Metavolcanic Rocks
1a Massive flows
1d Vesicular/amygdaloidal flows
1j Flow-top breccia/hyaloclastite/autobrecciated
1m Spinifex textured

[a] *The letter "C" preceding a code refers to data compiled from previous geological maps. The letter "G" preceding a code refers to data interpreted from geophysical surveys.*

[b] *This legend is based solely on field investigations and is subject to change should additional geochronological and/or geochemical data become available.*

[c] *Not all units appear on this map.*

[d] *Proterozoic dike swarms are based on Osmani (1991).*

ROCK CODE MODIFIERS

[cal]	calcite	[hem]	hematite
[chl]	chlorite	[mgs]	magnesite
[cv]	carbonate vein	[po]	pyrrhotite
[ep]	epidote	[py]	pyrite
[fks]	potassium feldspar phenocryst	[qv]	quartz vein
[gb]	gabbroic texture	[ser]	sericite

SYMBOLS

- Outcrop (observed, compiled)
- Area of bedrock outcrop (observed)
- Geological contact (interpreted, interpreted from geophysical data)
- Unconformity (interpreted)
- Fault (interpreted)
- Axial plane of fold, U-asymmetry (inclined)
- Bedding, no facing (inclined)
- Crossbedding, with facing (inclined)
- Gneissic layering (inclined)
- Mineral foliation, unknown generation (inclined, vertical)
- Igneous contact, dike or sill (trend, inclined, vertical)
- Fold axis lineation, U-symmetry, unknown generation
- Mineral lineation, unknown generation
- Mineral occurrence number, keyed to Table 1
- Mineral occurrence, keyed to Table 1 (nickel, copper-zinc, precious metals)
- 2682±2 — Geochronology sample site (intrusive) with age in Ma, keyed to Table 2
- Roads (trails)

ABBREVIATIONS[e]

Au.....gold
Co.....cobalt
Cu.....copper
Ni.....nickel
Zn.....zinc

[e] Keyed to Table 1.

SOURCES OF INFORMATION

Digital base map information 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.

Mapping conducted using UTM co-ordinates in North American Datum 1983 (NAD83), Zone 17.

Assessment files, Resident Geologist's office, Timmins.

Property information modified *from* the Mineral Deposit Inventory (OGS 2011).

Compiled geology derived from:

Hrabi, R.B. 1993. Supracrustal assemblages and structural geology in the Midlothian Lake-Peterlong Lake area, Abitibi subprovince; unpublished MSc thesis, Queen's University, Kingston, Canada, 147p.

Kamo, S.L. 2013. Preliminary report on U-Pb ID-TIMS geochronology of rocks from the Grenville and Superior provinces of Ontario; unpublished report, Jack Satterly Geochronology Laboratory, University of Toronto, Toronto, Canada, 36p.

Machado, G. and Longuépée, H. 2002. Precambrian Geology, Burrows, Kemp and Mond townships; Ontario Geological Survey, Preliminary Map P.3445, scale 1:20 000.

Miami–General Development Mine Ltd. 1948. Timmins Regional Resident Geologist Office, assessment file, AFRI#41P14SE0046 (AFRO#63A.40).

Mullen, D.V. 1983. Report on the geology of the Sothman greenstone belt, District of Sudbury and Temiskaming, Ontario; Falconbridge Limited, internal report, 53p.

Ontario Geological Survey 1999. Single Master Gravity and Aeromagnetic Data for Ontario; Ontario Geological Survey, Geophysical Data Set 1036.

Ontario Geological Survey 2003. Ontario Airborne Geophysical Surveys, Magnetic and Electromagnetic Data, Timmins Area; Ontario Geological Survey, Geophysical Data Set 1004.

Ontario Geological Survey 2009. Ontario Airborne Geophysical Surveys, Magnetic Data, Grid and Profile Data (ASCII and Geosoft® Formats) and Vector Data; Ontario Geological Survey, Shining Tree Area, Geophysical Data Set 1064.

Ontario Geological Survey 2011. Mineral Deposit Inventory—2011; Ontario Geological Survey, Mineral Deposit Inventory.

Osmani, I.A. 1991. Proterozoic mafic dike swarms in the Superior Province of Ontario; *in* Geology of Ontario, Ontario Geological Survey, Special Volume 4, Part 1, p.661-681.

Préfontaine, S. and Magnus, S.J. 2012. Precambrian geology of Sothman and Halliday townships; Ontario Geological Survey, Preliminary Map P.3765, scale 1:20 000.

Geology is not tied to survey lines.

Magnetic declination for centre of map area was approximately 10°28'W in 2013.

Metric conversion factor 1 foot = 0.3048 m.

PROPERTIES

Table 1. Main characteristics of the MDI for mineral deposits in Nursey Township. Source: OGS 2011.

No.	Occurrence	Commodities	Best Historic Value	Hosted Units
1	Sirola Gold Mines Property MDI41P14NW00021	Au, Ni	Up to 0.22 oz/t Au, 0.15% Ni	Mafic intrusive within ultramafic metavolcanic rocks
2	Rawson Island Showing MDI90000000138S	Zn (Ni, Cu, Co)	Up to 10 000 ppm Zn (0.125% Ni, 0.194% Cu, 187 ppm Co)	Ultramafic metavolcanic rocks
3	First Island Sample 1627	Ni	Up to 1900 ppm Ni	Ultramafic metavolcanic rocks

Note: Numbers (No.) are keyed to the locations on the map face. Discrepancies may occur in the location of the MDI points. Users should verify critical locations.
Abbreviations: MDI - Mineral Deposit Inventory; oz/t - ounces per ton; ppm - parts per million.

Table 2. Geochronology result for a granodiorite sample collected in Nursey Township (co-ordinates provided in NAD83, UTM Zone 17).

Sample No.	Easting (m)	Northing (m)	Rock Type	Age (Ma)	Source
12-LR-153	471291E	5306236N	Granodiorite	2682±2	Kamo 2013

Ontario

Ontario Geological Survey

MAP P.3771

PRECAMBRIAN GEOLOGY

NURSEY TOWNSHIP

Scale 1:20 000

500 m 0 0.5 1 km

NTS Reference: 41 P/14

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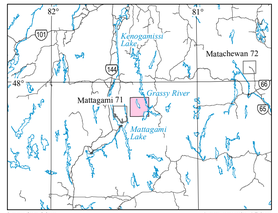

Location Map 1 cm equals 15 km

CREDITS

Geology by L. Robichaud and assistants during the summer of 2012 and with S. Préfontaine and S.J. Magnus during the summer of 2010.

Preparation of geophysical imagery by D.R.B. Rainsford.

Digital drafting and preparation of GIS product by J.E. Chartrand and L. Robichaud.

Cartographic production by A. Evers.

Edited by P.A. Takats.

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.

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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.