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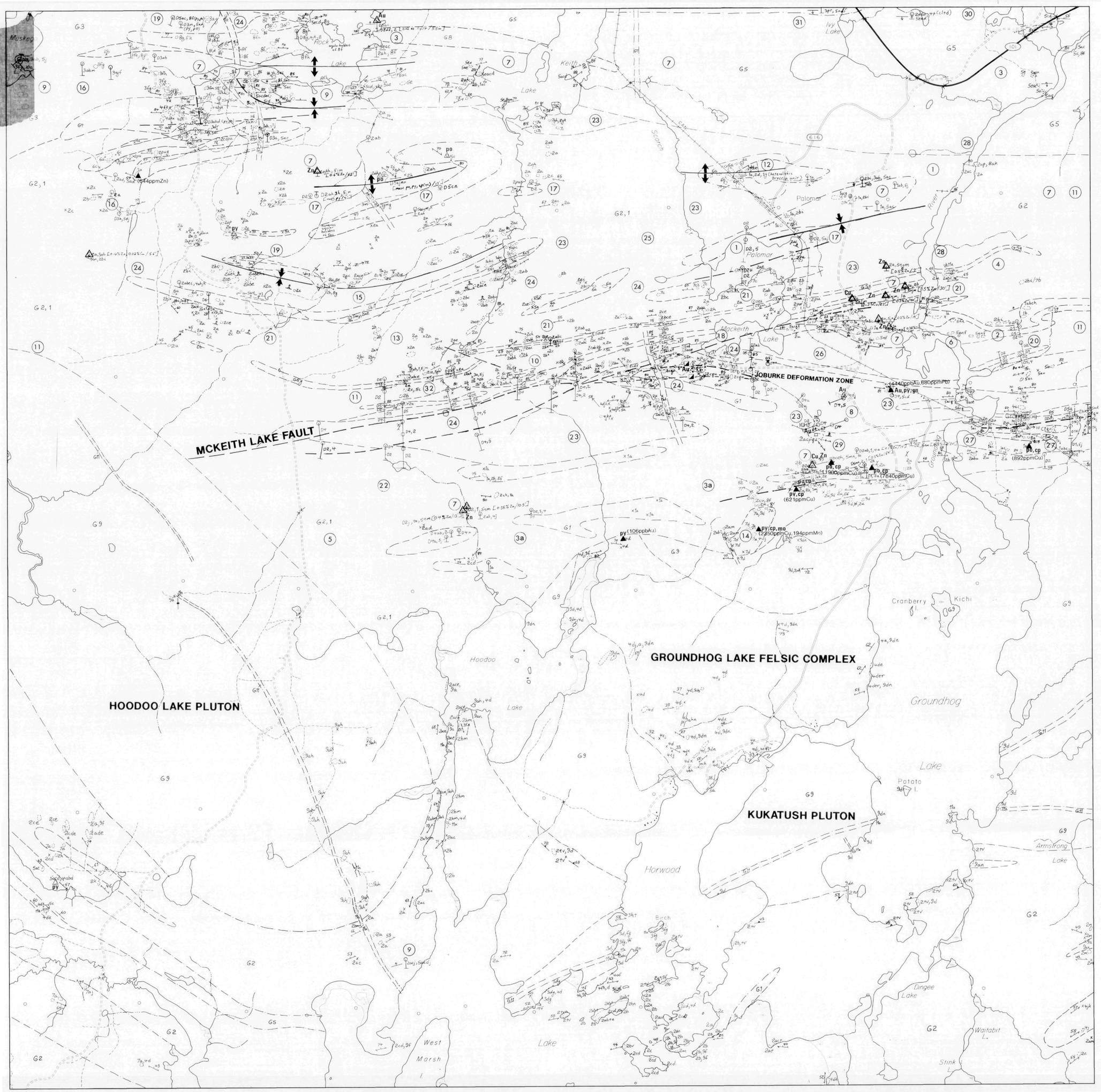

LEGEND[a,b,c]

PHANEROZOIC

CENOZOIC

QUATERNARY

PLEISTOCENE AND RECENT

Unconsolidated glacial, glacial-fluvial, lacustrine and fluvial deposits

UNCONFORMITY

PRECAMBRIAN

PROTEROZOIC

11 **Mafic Intrusive Rocks**
- 11a Diabase
- 11b Plagioclase porphyritic

INTRUSIVE CONTACT

ARCHEAN

10 **Alkalic Mafic Intrusive Rocks**
- 10a Biotite lamprophyre

INTRUSIVE CONTACT

9 **Late Felsic to Intermediate Intrusive Rocks**
- 9a Biotite and/or hornblende granodiorite, quartz monzodiorite
- 9b Biotite and/or muscovite granite
- 9c Biotite and/or hornblende tonalite, quartz diorite
- 9d Hornblende and/or biotite monzonite
- 9e Felsite
- 9f Feldspar porphyry
- 9g Quartz-feldspar porphyry
- 9h Alkali feldspar phenocrysts
- 9i Epidote alteration
- 9k Quartz porphyry
- 9n Mafic xenoliths
- 9p Pegmatite
- 9s Foliated

INTRUSIVE CONTACT

8 **Early Felsic to Intermediate Intrusive Rocks**
- 8a Hornblende &/or biotite tonalite, quartz diorite
- 8b Hornblende &/or biotite granodiorite, quartz monzodiorite
- 8c Biotite granite
- 8d Hornblende diorite
- 8e Felsite
- 8f Feldspar porphyry
- 8g Feldspar-quartz porphyry
- 8h Hornblende and/or biotite phenocrysts
- 8k Foliated to gneissic
- 8m Carbonate alteration

INTRUSIVE CONTACT

7 **Metamorphosed Mafic Intrusive Rocks**[d]
- 7a Gabbro
- 7b Metagabbro
- 7c Leucogabbro
- 7d Diorite
- 7e Anorthosite
- 7f Carbonate alteration
- 7h Schistose to foliated
- 7j Amphibole porphyroblasts

INTRUSIVE CONTACT

6 **Metamorphosed Cumulate-Textured Ultramafic Rocks**[d]
- 6a Dunite, peridotite
- 6b Pyroxenite
- 6c Schistose

INTRUSIVE OR CONFORMABLE CONTACT

Metamorphosed Volcanic and Sedimentary Rocks[b]

5 **Sedimentary Rocks**
- 5a Sandstone
- 5c Siltstone
- 5d Mudstone
- 5e Conglomerate
- 5f Hematite ironstone
- 5g Magnetite ironstone
- 5h Amphibole-bearing ironstone
- 5j Graphitic mudstone
- 5m Sulphide ironstone
- 5n Chert, siliceous siltstone
- 5p Paragneiss
- 5q Carbonatized
- 5r Garnetiferous
- 5s Schistose
- 5u Sericitized

4 **Felsic Volcanic Rocks**[g]
- 4a Tuff
- 4b Lapilli-tuff
- 4c Tuff-breccia
- 4d Massive flow/synvolcanic intrusion
- 4e Mamolitic cavities
- 4f Brecciated flow
- 4g Monolithic fragments
- 4h Heterolithic fragments
- 4j Feldspar-phyric
- 4k Quartz-phyric
- 4n Epidotization
- 4m Carbonatized
- 4p Schistose
- 4r Garnetiferous

3 **Intermediate Volcanic Rocks**
- 3a Tuff
- 3b Lapilli-tuff
- 3d Massive flow
- 3f Pillowed flow
- 3g Amygdaloidal flow
- 3h Brecciated flow
- 3k Heterolithic fragments
- 3m Feldspar-phyric
- 3p Carbonatized
- 3q Epidotized
- 3r Schistose
- 3t Garnetiferous

2 **Mafic Volcanic Rocks**
- 2a Fine-grained massive flow
- 2b Medium-grained massive flow
- 2c Pillowed flow
- 2d Amygdaloidal flow
- 2e Variolitic flow
- 2f Plagioclase porphyritic
- 2g Quartz-phyric
- 2h Brecciated flow
- 2i Pyroxene-spinifex
- 2j Tuff
- 2k Lapilli-tuff, tuff-breccia
- 2m Amphibole porphyroblasts
- 2n Garnetiferous
- 2p Calcium-carbonatized
- 2q Iron-carbonatized
- 2t Migmatized
- 2u Schistose
- 2v Gneissic

1 **Ultramafic Volcanic Rocks**
- 1a Massive flow
- 1b Spinifex-textured flow
- 1c Polyhedral-jointed flow
- 1g Olivine phenocrysts
- 1h Brecciated flow
- 1j Talcose
- 1k Carbonatized
- 1m Schistose

[a] *This is a field legend and may be changed as a result of subsequent laboratory investigations.*

[b] *Units prefixed with the letter "G" are based on geophysical interpretation, units prefixed with the letter "D" are based on data obtained from diamond drill hole logs.*

[c] *This legend applies to maps P.3272 and P.3273, therefore, not all of the units shown in this legend may be present on this map.*

[d] *May be in part extrusive.*

[e] *May be in large part extrusive.*

[f] *The order of subdivision of the major rock units does not indicate age relationships.*

[g] *In part subvolcanic intrusive.*

Ministry of Northern Development and Mines
Ontario

Mines and Minerals Division
Ontario Geological Survey

MAP P.3272

PRECAMBRIAN GEOLOGY

KEITH TOWNSHIP

NORTHERN SWAYZE GREENSTONE BELT

Scale 1:15 840

500 m 0 0.5 1 km

Mile 1/4 0 1/2 Mile

NTS Reference: 42 B/1

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SYMBOLS

- Small bedrock outcrop
- Area of bedrock outcrop
- Bedding, top unknown
- Bedding, top indicated by arrow
- Pillow lava, top indicated by arrow
- Foliation (S1, S2, S3)
- Gneissosity
- Lineation
- Geological boundary, position inferred
- Geological boundary, position deduced from geophysics
- Shear zone, with dip
- Fault, small deformation zone
- Extensive deformation zone
- Minor fold axis, with plunge
- Syncline, anticline
- Drill hole (rock unit observed in core, rock unit reported from logs)
- Anomalous metal values from assessment file data
- Property

ABBREVIATIONS

Au	gold	mt	magnetite
as	arsenopyrite	po	pyrrhotite
ctd	chloritoid	py	pyrite
cp	chalcopyrite	qv	quartz vein
Cu	copper	sp	sphalerite
gn	galena	Zn	zinc
mo	molybdenite		

PROPERTIES[a,b,c]

1. Aladdin Groundhog Mines Ltd. [1947]
2. Algoma Ore Ltd. [1960]
3. B.P. Resources Ltd. [1989]
3a. Canadian Johns-Manville Co Ltd. [1966]
4. Canadian Pacific Railway [1959]
5. Concord Mines Ltd. [1947]
6. Consolidated Mining & Smelting Co. of Canada [1946]
7. Dome Exploration (Canada) Ltd. [1983]
8. Dunvegan Mines Ltd. [1947]
9. Falconbridge Ltd. [1991][d]
10. Garnet Gold Mines [1947]
11. Glen Auden Resources Ltd. [1988][d]
12. Hanna Mining Co. [1973]
13. Hollinger Mines Ltd. [1971]
14. Holliston Property (Nib-Yellowknife Mines Ltd.) [1947]
15. Hostee Prospecting Syndicate [1946]
16. Hudbay Mining Ltd. [1983]
17. International Nickel Co. of Canada Ltd. [1964]
18. Joburke Gold Mines, Ltd. [1949]
19. Keevil Mining Group Ltd. [1965]
20. Keithgold Mines Ltd. [1947]
21. Kukatush Mining Corp. (Groundhog Mining Corp.) [1966]
22. MacLeod-Cockshutt Gold Mines [1947]
23. Marshall Minerals Corp. (Gail Resources Ltd.; Sanford, G.K.) [1989][d]
24. Noranda Exploration Co Ltd. [1980][d]
25. Nudulama Mines (Dulama Gold Mines Ltd.) [1947]
26. Palomar Gold Mines Ltd. [1947]
27. Purdy Mica Mines Ltd. [1947]
28. Radio Hill Mines Co Ltd. [1967]
29. Robertson, D.S. & Associates [1969]
30. Unigold Resources Ltd. [1987]
31. Utah Mines Ltd. [1986][d]
32. Wejack Mines Limited [1947]

[a] *List only includes properties and past exploration work with significant mineralization reported. A more complete record of the extensive past exploration work filed for assessment credit is summarized in Geological Data Inventory Folios (GDIF) for the 2 townships on file at the Resident Geologist's Office in Timmins.*

[b] *Date in square brackets indicates the last year of recorded exploration.*

[c] *See Table 2 of accompanying Open File Report 5901 for additional information.*

[d] *Claims still active as of August 31, 1992.*

SOURCES OF INFORMATION

Base maps derived from Forest Resources Inventory Maps, Surveys and Mapping Branch, Ontario Ministry of Natural Resources.

Horwood Lake Area, Ontario Department of Mines Map No. 46a, scale 1:63 360, by W.D. Harding, 1937.

Parts of Keith and Muskego Townships, Ontario Department of Mines Map No. 1956–4, scale 1:12 000, by V.K. Prest, 1951.

Horwood Lake, Ontario Division of Mines Map 2329, scale 1:31 680, by F.W. Breaks, 1978.

Chapleau–Foleyet, Ontario Department of Mines, Geological Compilation Series Map 2221, scale 1:253 440, by P.C. Thurston, G.M. Siragusa and R.P. Sage, 1977.

Airborne magnetic survey, Ontario Division of Mines–Geological Survey of Canada, Maps 2263G, 2264G, scale 1:63 360, 1963.

Airborne electromagnetic and total intensity magnetic surveys, north Swayze–Montcalm area; Ontario Geological Survey, Maps 81 368, 81 369, 81 375, 81 376, 81 382, 81 383, scale 1:20 000, 1990.

Assessment files, Keith Township, Geological Data Inventory Folio, Resident Geologist's Office, Timmins.

Geology not tied to survey lines.

Magnetic declination approximately 7° 09' west.

Metric conversion factor: 1 foot = 0.3048 m.

CREDITS

Geology by J.A. Ayer, R. Theriault and assistants, 1992.

To enable the rapid dissemination of information, this map is **unedited**. Discrepancies may occur for which the Ontario Geological Survey 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.

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