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LEGEND[a]

PHANEROZOIC[b]

CENOZOIC

QUATERNARY

PLEISTOCENE AND RECENT

Organic soils, sandy till, glaciofluvial sand and gravel

UNCONFORMITY

PRECAMBRIAN

PROTEROZOIC[b]

12 Mafic Intrusive Rocks

- 12a Diabase
- 12b Porphyritic (feldspar) diabase
- 12c Glomeroporphyritic (feldspar) diabase
- 12d Diabase with minor biotite
- 12h Carbonatite
- 12p Olivine lamprophyre
- 12q Carbonatite-silicocarbonatite[h]
- 12r Ferruginous carbonatite
- 12s Syenite
- 12t Biotite lamprophyre
- 12u Porphyritic (feldspar) lamprophyre
- 12v Lamprophyre with xenoliths

Carbonatite Intrusive Rocks

11 Firesand Carbonatite

- 11a Sövite[c]
- 11b Silicocarbonatite
- 11c Rauhaugite (ferruginous dolomite)

INTRUSIVE CONTACT

ARCHEAN

8 Herman Lake Alkalic Rock Complex

- 8a Medium-grained equigranular amphibole syenite
- 8b Coarse-grained nepheline-cancrinite syenite
- 8c Nepheline syenite pegmatite
- 8d Melanocratic nepheline syenite to malignite
- 8e Pyroxenite
- 8f Syenite pegmatite
- 8g Fine-grained syenite to nepheline syenite
- 8h Syenite aplite to quartz syenite aplite
- 8i Coarse-grained syenite
- 8k Metagabbro; may not be related to complex

INTRUSIVE CONTACT

7 Felsic Intrusive Rocks

- 7a Quartz-feldspar porphyry
- 7b Feldspar porphyry
- 7c Quartz porphyry
- 7d Diorite, quartz diorite
- 7e Granodiorite, granite
- 7f Aplite
- 7g Diorite, granodiorite
- 7i Porphyritic granodiorite to quartz monzonite
- 7k Felsic dikes
- 7m Trondhjemite, granodiorite, quartz-feldspar porphyry
- 7n Felsic intrusive rocks, (fine-grained, rare quartz or feldspar phenocrysts)
- 7p Intrusive breccia
- 7q Equigranular quartz monzonite to granite
- 7r Porphyritic (plagioclase) diorite, granodiorite
- 7s Porphyritic quartz monzonite to granite
- 7t Syenite to quartz syenite
- 7u Monzonite to quartz monzonite
- 7v Massive trondhjemite to quartz diorite
- 7w Granodiorite, fine grained, commonly schistose

INTRUSIVE CONTACT

6 Metamorphosed Mafic to Ultramafic Intrusive Rocks

- 6a Gabbro, diorite
- 6b Anorthositic gabbro
- 6c Anorthosite
- 6d Diabase
- 6f Hornblende diorite
- 6g Peridotite
- 6h Pyroxenite
- 6i Talc schist
- 6j Mafic dikes
- 6k Quartz diorite, trondhjemite[g]
- 6m Quartz gabbro
- 6n Xenolithic gabbro
- 6q Porphyritic gabbro, diorite
- 6p Carbonatized or carbonate-bearing mafic intrusion
- 6r Hornblendite
- 6s Hornblende-biotite rock with xenoliths (intrusive breccia)
- 6t Biotite-rich intrusive rock
- 6u Intrusive Breccia

INTRUSIVE CONTACT

Metasedimentary Rocks

5 Chemical Metasedimentary Rocks[q]

- 5a Magnetite/hematite chert iron formation
- 5b Carbonate, commonly with minor chert, pyrite, and rarely arsenopyrite
- 5c Sulphide, commonly associated with sub-ordinate siderite and chert
- 5d Chert, may contain subordinate siderite and pyrite locally may be graphitic
- 5e Graphite-argillite, commonly pyritic, argillaceous and associated with iron formation
- 5f Chert and iron oxide in approximately equal portions
- 5g Chert and carbonate in approximately equal portions
- 5h Chert and sulphide in approximately equal portions
- 5i Chert, graphite, argillite (black chert containing graphite)
- 5k Chert, siderite and magnetite
- 5m Chert, wacke or siltstone
- 5n Chert cemented with iron oxides; i.e. weathered iron formation (chert breccia)
- 5p Chert, hematite
- 5q Iron oxide, chert, wacke
- 5r Iron oxide, wacke
- 5s Chert breccia

4 Clastic Metasedimentary Rocks

- 4a Volcanic clast wacke
- 4b Chert
- 4c Plagioclase-quartz-biotite schist
- 4d Wacke, lithic wacke
- 4e Argillite
- 4f Interlaminated siltstone, mudstone
- 4g Conglomerate with granite clasts[f]
- 4h Volcanic clast conglomerate
- 4j Siltstone, sandstone, lithic sandstone
- 4k Quartz arenite, arkose, lithic arkose
- 4m Carbonate-rich metasediment[i]
- 4n Lithic arkose
- 4p Thinly bedded wacke, siltstone
- 4q Carbonate, ferruginous limestone
- 4r Wacke, thinly bedded amphibolite, quartz-plagioclase schist
- 4s Wacke with garnet porphyroblasts
- 4t Siltstone, massive

Metavolcanic Rocks

3 Intermediate to Felsic Metavolcanic Rocks

- 3a Sericite schist
- 3b Heterolithic breccia
- 3c Monolithic lapilli tuff
- 3d Tuffaceous quartz-eye, feldspar-clast sericite schist
- 3e Banded tuff with fiamme
- 3f Massive flow
- 3g Monolithic breccia (felsic matrix, mafic clasts)
- 3h Porphyritic (feldspar) flow
- 3i Feldspar crystal tuff, intermediate
- 3j Porphyritic (quartz) flow
- 3k Spherulitic flow
- 3l Breccia, felsic clasts in chlorite matrix
- 3m Flow banded lava
- 3n Autoclastic monolithic breccia
- 3o Intermediate tuff
- 3p Heterolithic lapilli tuff
- 3q Quartz-eye crystal tuff
- 3r Heterolithic quartz-eye crystal tuff, lapilli tuff
- 3s Heterolithic crystal tuff, breccia
- 3t Tuff
- 3u Laminated tuff
- 3v Chlorite-sericite schist
- 3w Feldspar crystal tuff, felsic
- 3y Crystal (quartz-feldspar) tuff
- 3z Heterolithic (cataclastic) breccia

2 Mafic to Intermediate Metavolcanic Rocks

- 2a Massive flows
- 2b Pillowed flows
- 2c Chlorite schist
- 2d Heterolithic breccia
- 2e Monolithic breccia (mafic matrix, felsic clasts)
- 2f Porphyritic (feldspar) flows
- 2g Massive medium-grained flows
- 2h Magnetite-bearing flows
- 2i Tuffaceous chloritic schist
- 2j Pillowed porphyritic (feldspar) flows
- 2k Variolitic flows
- 2l Amygdaloidal flows
- 2m Feldspar (quartz) crystal tuff
- 2n Heterolithic breccia, lapilli size clasts
- 2p Breccia (mafic matrix, intermediate to felsic clasts)
- 2q Amphibolite
- 2r Laminated tuff, lapilli tuff
- 2s Crystal (feldspar) tuff, crystal tuff
- 2t Talc-actinolite, actinolite rock
- 2u Monolithic breccia (mafic matrix, mafic clasts)
- 2v Laminated tuff
- 2w Lapilli tuff
- 2y Porphyritic (amphibole) flows
- 2z Tuff, chloritic schist with quartz[f]

INTRUSIVE CONTACT

1 Early Felsic Plutonic Rocks

Gneissic Granitic Rocks

- 1a Aplite
- 1b Pegmatite
- 1c Diorite, quartz diorite
- 1d Trondhjemite
- 1e Trondhjemite, gneissic to massive
- 1f Leucocratic trondhjemite
- 1g Porphyritic biotite trondhjemite dikes

Massive Granitic Rocks[m]

- 1n Aplite, pegmatite dikes
- 1p Diorite, quartz diorite
- 1q Trondhjemite
- 1r Granodiorite, quartz monzonite
- 1s Monzonite, quartz monzonite
- 1t Porphyritic monzonite, quartz monzonite
- 1u Granodiorite, trondhjemite (weakly foliated)
- 1v Porphyritic granodiorite
- 1w Massive quartz monzonite
- 1y Porphyritic quartz monzonite to granite

[a] *This is fundamentally a field legend modified by subsequent laboratory investigations. The legend applies to all maps, resulting from current mapping programs in the Wawa area. Units listed may not all be present in each township. Where a rock unit code is followed by a second code in brackets the second unit occurs within the first unit. Many drillholes, pits, trenches, and all surveyed claims were deleted due to lack of space.*

[b] *Greater than 50% silicate-oxide minerals.*

[c] *Greater than 50% carbonate.*

[d] *Colour index 20 to 40.*

[e] *Colour index 10 to 25.*

[f] *Transitional porphyritic to nonporphyritic.*

[g] *Associated with mafic intrusive rocks.*

[h] *A chemical sedimentary bed which contains 33% of more of the common iron minerals by volume. This does not includecommonly associated interbeds of chert or clastic sedimentary material. A sufficiently extensive mappable unit containing a significant proportion of variable interbeds of chert or clastic sedimentary material. A sufficiently extensive mappable unit containing a significant proportion of ironstone interbeds may be designated as an iron formation.*

[i] *Dore type conglomerate.*

[j] *Green mica may be present.*

[k] *May be intrusive in part.*

[l] *Greater than 5% quartz.*

[m] *Possibly contemporaneous with unit 7.*

[n] *May be Proterozoic.*

[p] *Legend established in 1979 and in order to maintain continuity between map sheets it will be retained. Uranium-lead isotopic ages, Turek et al. (1982, 1984) have so far indicated that the external granites are younger than the supracrustal rocks.*

[q] *may be compiled from external sources.*

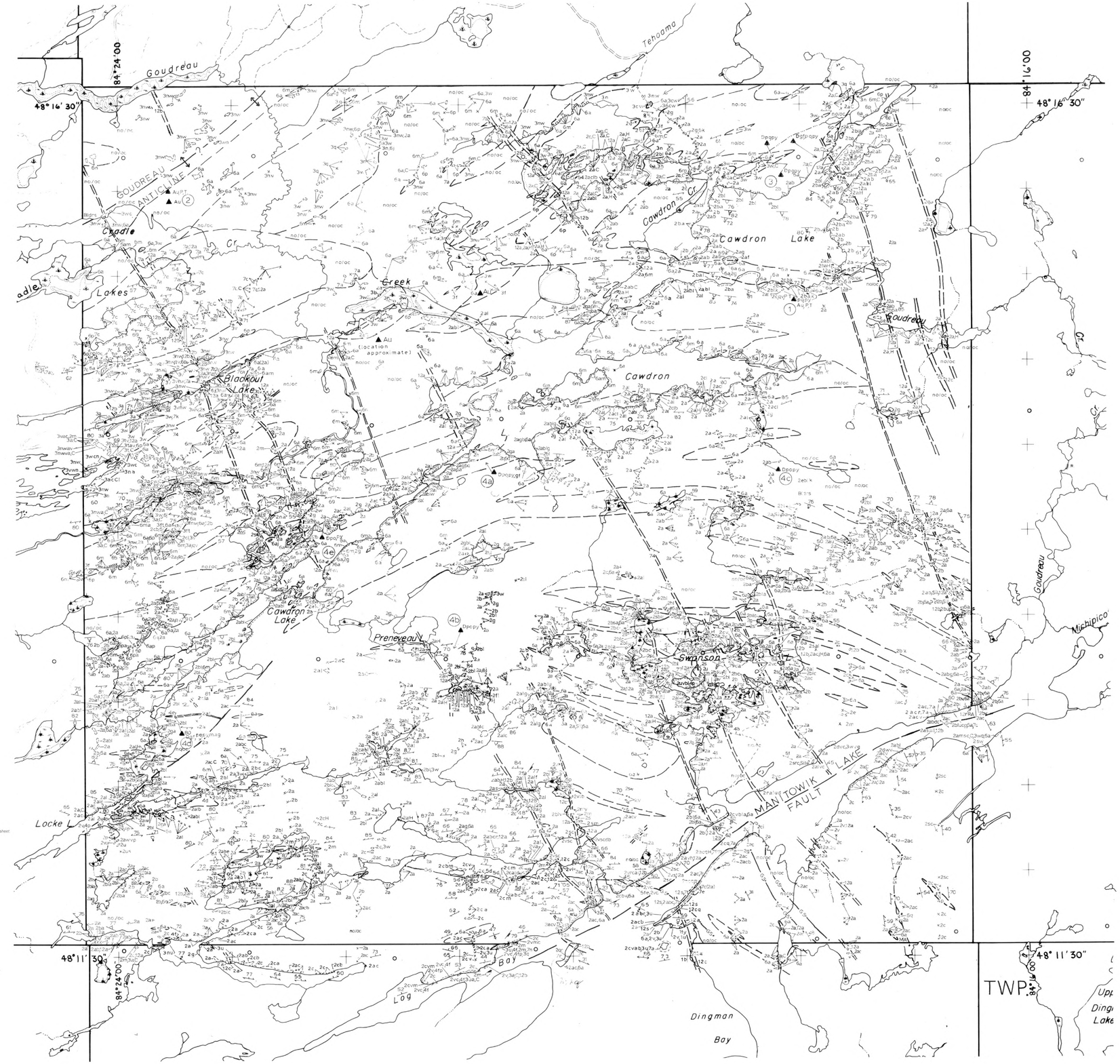
ABBREVIATIONS

m	mullion structure	h	hornfels
c	clast	my	mylonite
p	pillow	gos	gossan
s	slickensides	c	carbonatized
b	biotite	fe	iron staining
mf	intersection of two foliations	sil	silicified
		clta	chloritoid
F	fold axis of minor fold	IF	iron formation
se	stretched	MA	magnetic anomaly
bx	breccia		

Symbols

- Schistosity (inclined, vertical)
- Lineation, bearing and plunge indicated (m – mullion structure, c – clast, p – pillow, s – slickensides, b – biotite, i – intersection of 2 foliations, F – fold axis of minor fold, Se – stretched spherulites, h – hornblende, Ch – chlorite streaks)
- Glacial striae
- Pillowed volcanics; dip and facing direction indicated
- Pillow elongation (inclined, vertical, facing direction unknown)
- Radioactivity, superscript refers to number in table
- Minor shear (inclined, vertical)
- Major shear (attitude uncertain; attitude indicated)
- Trench
- Pit
- Banding (inclined, vertical)
- Kinkband (inclined, vertical with plunge of fold and direction of movement indicated)
- Minor fold (strike and dip of axial plane, bearing and plunge of fold axis)
- Geological boundary (observed, interpreted)
- Small bedrock outcrop
- Area of bedrock outcrop
- Mine
- Mineral Occurrence
- Bedding, top (arrow) from grain gradation (inclined, vertical, overturned)
- Bedding, top (arrow) from cross bedding (inclined, vertical overturned)
- Bedding top, (arrow) indicated by flame structures in interbedded sandstone-siltstone (inclined, vertical, overturned)
- Paleocurrent direction as suggested by ripple marks (R), Cross bedding (X)
- Data from diamond drillhole
- Shaft, depth in feet
- Jointing (inclined, vertical)
- Lineament
- Lineament, possibly a fault zone

Note: Not all symbols may appear on this map sheet.



Ministry of Northern Development and Mines
Ontario

Mines and Minerals Division
Ontario Geological Survey

Open File Map 218

Precambrian Geology

Bird Township

Scale 1:15 840

500 m 0 0.5 1 km

Mile 1/4 0 1/2 Mile

UNEDITED MANUSCRIPT

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SOURCES OF INFORMATION

Base map derived from Forest Resources Inventory maps, Lands and Waters Group, Ontario Ministry of Natural Resources.

Assessment Files Research Office, Ontario Geological Survey, Toronto (AFRO).

Resident Geologist's Files, Ontario Ministry of Northern Development and Mines, Sault Ste. Marie.

Records, The Algoma Steel Corporation Limited (formerly Algoma Ore Properties Limited), Sault Ste. Marie.

Assessment Files Office, Algoma Central Railway Sault Ste. Marie (ACR).

Geology not tied to surveyed lines.

Magnetic declination approximately 6°16' W in 1983.