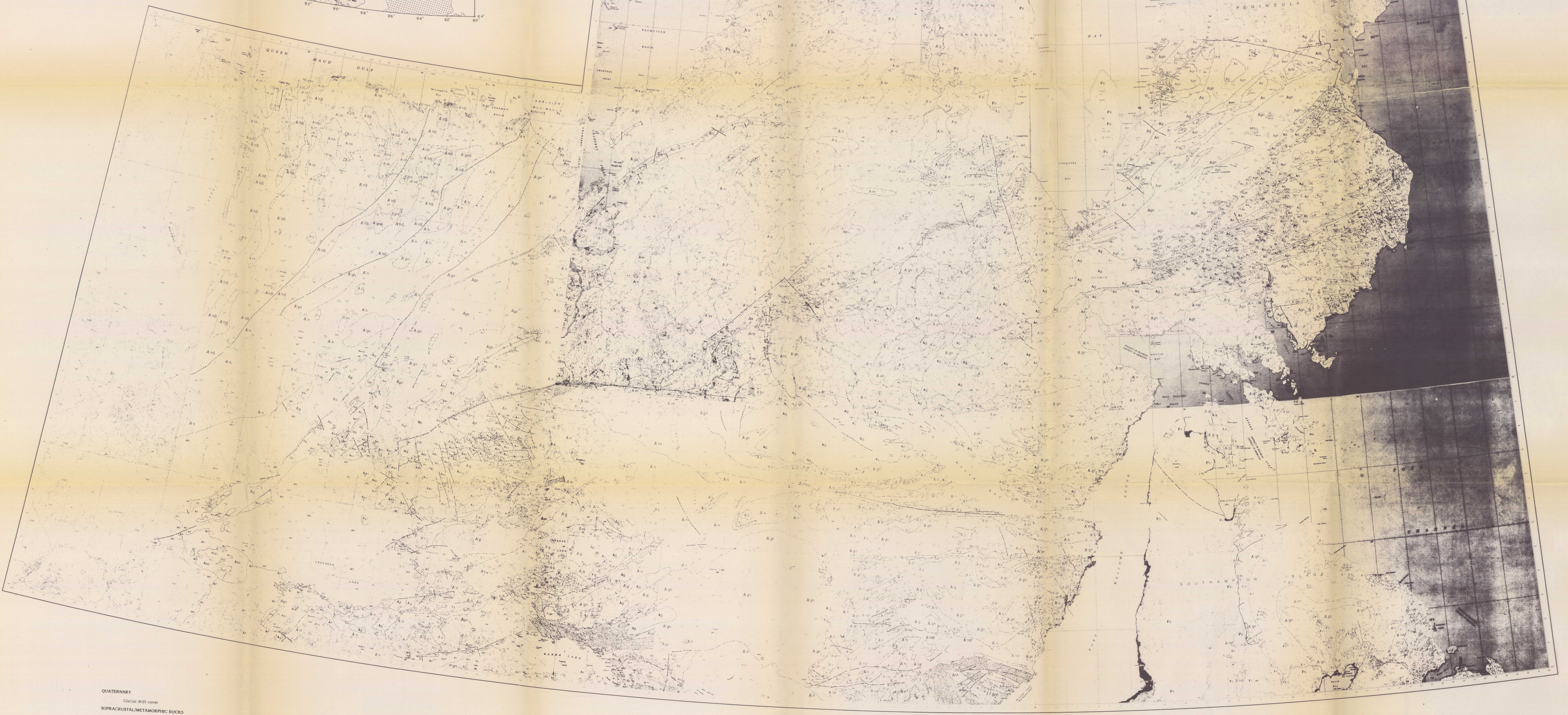
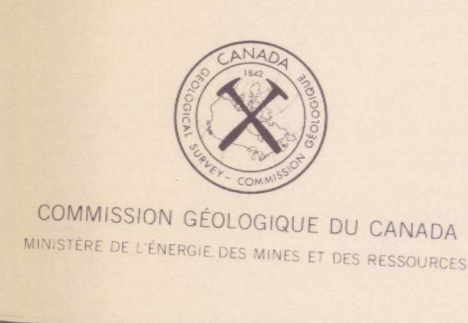
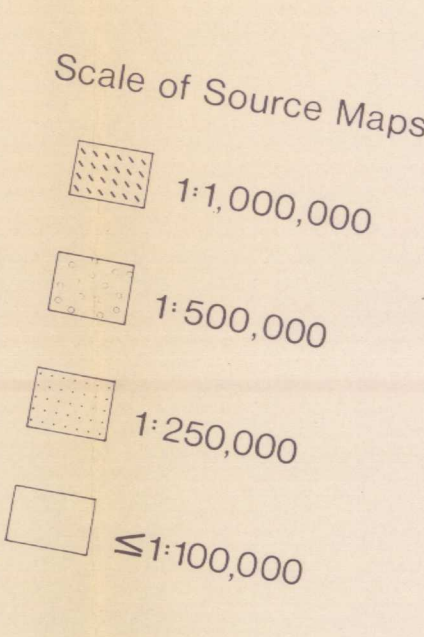
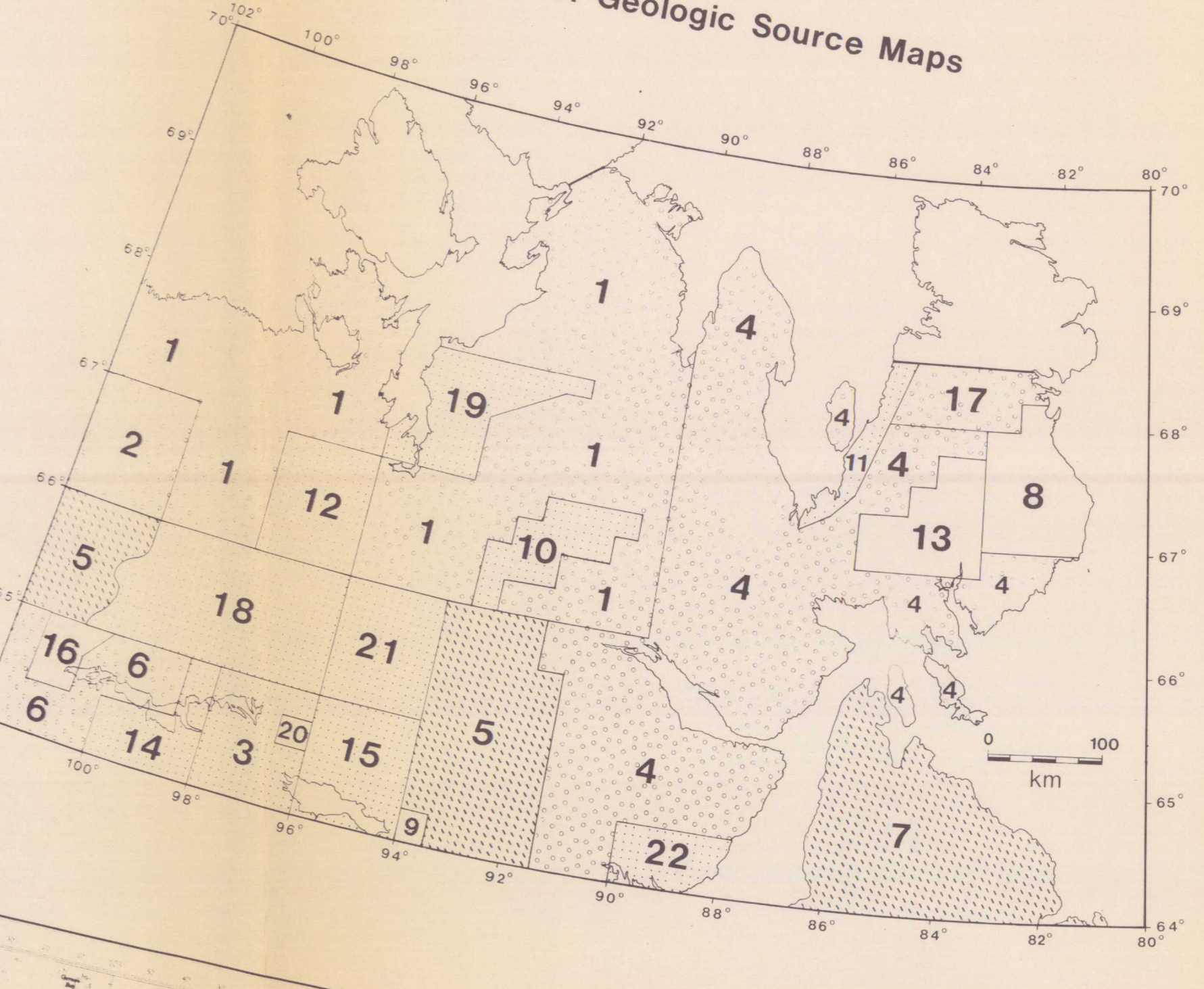


Index of Geologic Source Maps



COMPILED AND MARGINAL LEGEND BY
Seth C. Patterson and A.L. LeCheminant
February, 1985

This open file consists of a 1:1 000 000 scale preliminary geological map of NTS areas 46, 56 and parts of 47, 57 and 66. Accompanying the map are a marginal legend and an index of source maps. A bibliography of publications in which geology and mineral deposits is appended.

Subject to revision. Corrections or additional geological information would be welcomed and references listed in the accompanying bibliography.

The "Metamorphic Map of the Canadian Shield" (Map 1474A) was consulted to define granulite facies. Petrographic data for areas covered by regional metamorphic mapping can be referred to A.L. LeCheminant.

Dikes have been omitted from this compilation. A map of regional dike swarms has been prepared by B.C. Fyfe and will be published at a scale of 1:2 500 000. Metastable dikes of local extent are known from Melville Peninsula, Devonian, 1981, and from the Thelon River area, 1983. Data on igneous rocks and dike swarms in NTS 46A and 66B can be obtained from United States of America, 1983.

Neotectonic gravity and radiometric data were considered during the preparation of this map. Correlative maps of this geological data at 1:1 000 000 are available for much of the region:

- Neotectonic Map: Thelon River, Map No. 13-16-17-36, 64°-48'N, 97°-10'W; Thelon River, Map No. 12-13-14-36, 64°-48'N, 97°-12'W.
- Manuscript Maps for Gravity Map of Canada 1983: Thelon River, Map 4625, 64°-48'N, 97°-10'W; Thelon River, Map 4626, 64°-48'N, 97°-12'W; Thelon River, Map 4627, 64°-48'N, 97°-14'W.
- Gamma Ray Spectrometry Maps: Thelon River, Map No. 15-16-17, 64°-48'N, 97°-10'W; Thelon River, Map No. 15-16-17, 64°-48'N, 97°-12'W; Thelon River, Map No. 12-13-14, 64°-48'N, 97°-12'W.

Canada Open File 102.

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2. Fraser, J.A. 1966. Geological Notes on Northeastern District of Mackenzie, Northwest Territories Geological Survey of Canada, Paper 63-10, 20 p., Map 43-1963.
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QUATERNARY

Glacial drift cover
SUPRACRISTAL/METAMORPHIC ROCKS

- WOODBURN AND KETTER RIVER GROUPS**
- HELKIAN**
- DUBUNT GROUP (Ht-Ac)**
- THELON FORMATIONS** sandstone, pebbly sandstone, conglomerate
- APHELIAN**
- PITZ FORMATION** acid lava, welded tuffs, minor red sandstone and conglomerate
- CRISTOFHER ISLAND FORMATION, MARTELL SYENITE AND KINRAK FORMATION** shaly siltstone, volcanic tuff and ash, volcaniclastic rocks, pebbly siltstone and conglomerate
- SOUTH CHINN AND KAZAN FORMATIONS** polymorphic conglomerate, pebbly siltstone, minor siltstone and mudstone
- ROCKEY LAKE FORMATION** weakly metamorphosed arkose minor conglomerate, mudstone, siltstone and siltstone
- AMES GROUP**
- AMES FORMATION** sandstone, siltstone and mudstone
- AMES FORMATION** siltstone, sandstone, siltstone, mudstone-siltstone-phylite minor mudstone and gabbro
- PERNIN GROUP** quartzite, amphibolite, marble, calc-silicate gneiss, garnetiferous and pelitic gneiss, granite and basaltic dike
- ARCHAEN/APHELIAN (unassigned)**
- Granite gneiss and gneiss** granitoid rocks includes granite, granodiorite and quartz diorite
- Sherman Islet gneiss***
- Mixed gneiss amphibolite gneiss, hornblende-biotite gneiss, granitoid gneiss and metabasite** part derived from sedimentary and volcanic rocks minor mylonite, amphibolite gneiss and amphibolite
- Sherman Islet gneiss***
- Granulite grades** hyperthrust para-gneiss, hornblende-biotite-garnet-sillimanite gneiss, hyperthrust granitoid gneiss
- Phylon-hornblende and/or biotite schist and gneiss, amphibolite, calc-silicate gneiss, garnetiferous schist and gneiss minor mixed gneiss and granite**
- Sherman Islet gneiss***
- Lower quartzite/epidiorite gneiss biotite-hornblende gneiss, minor garnetiferous gneiss and amphibolite**
- CHANNY GROUP** impure quartzite, marble, metasilicate-mudstone, amphibolite gneiss and amphibolite
- UNCORRELATED SUPRACRISTAL ROCKS**
- Unsubdivided supracrustal rocks** gneiss, hornblende-biotite gneiss and amphibolite, biotite schist and amphibolite, minor metabasite and quartzite
- Quartzite** minor mica schist
- Mesoproterozoic rocks** para-gneiss, mica schist, marble, calc-silicate gneiss and quartzite
- Neoproterozoic schist and amphibolite** probably derived from basic to intermediate rocks
- ARCHAEN**
- Granite gneiss, K-feldspar augen granitic gneiss and gneiss** granitoid rocks major gneiss and granodiorite, hornblende and biotite-bearing, mylonite in part
- Mixed gneiss** layered tonalite and granodiorite gneiss, hornblende-biotite gneiss and amphibolite, minor biotite- and garnet-biotite gneiss and amphibolite
- Granulite grades** paragneiss granitoid*
- Gneiss complex** basement by Archaen supracrustal rocks includes Aphelion Complex and former River Group Complex
- Layered gneiss, garnet-quartz-sillimanite gneiss, sillimanite gneiss and schist in part or granitic gneiss***
- PRINCE ALBERT GROUP**
- Metasedimentary and metamorphic rocks** conglomerate, iron formation, pelitic schist, biotite schist, phylite, chlorite schist, amphibolite and saponite schist
- Metamorphic**
- Quartzite**
- UNCORRELATED SUPRACRISTAL ROCKS** (Includes WOODBURN and KETTER RIVER GROUPS)
- Unsubdivided supracrustal rocks** includes impure quartzite, chlorite schist, mica schist, amphibolite, metasilicate rocks, amphibolite and iron formation
- Quartzite** minor mica schist and conglomerate
- Mafic to felsic metamorphic rocks** includes diorite, breccia, tuff and volcaniclastic rocks, minor metabasite silt and dikes
- Metamorphic**
- Cretaceous, late, chlorite and mica schist** minor conglomerate, carbonates and iron formation

MASSIVE AND FOLIATED INTRUSIVE ROCKS

- SYENITE** and mafic syenite; minor pyroxenite, pyroxene monzonite and quartz syenite
- Biotite and biotite-hornblende gneiss and granodiorite** epidiorite or porphyritic, massive to weakly foliated, locally dioritic- and/or sphaire-bearing
- Diorite**, gabbro minor ultramafic rocks
- ARCHAEN/APHELIAN (unassigned)**
- Granite, granodiorite, quartz diorite, minor syenite, monzonite and syenodiorite** massive to foliated
- Diorite, gabbro** minor anorthositic gabbro, anorthositic, pyroxenite and peridotite
- ARCHAEN**
- Granite, granodiorite and quartz diorite** massive to well foliated
- Diorite, gabbro** minor ultramafic rocks locally deformed and metamorphosed
- Anorthositic, gabbroic, anorthositic and layered gabbro** locally metamorphosed to amphibolite or granulite grades*

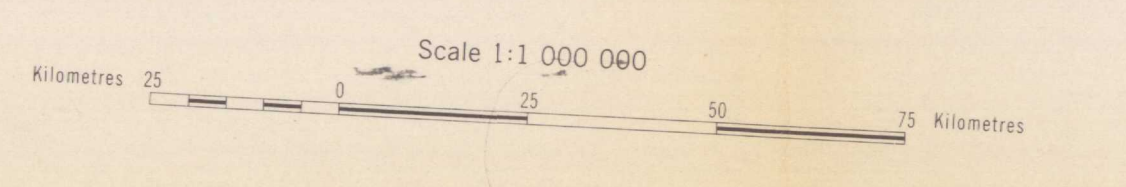
* Western parts of the Owen Sound Block (Heywood and Schuch, 1978) contain high grade gneiss generally named the Sherman Islet gneiss. These gneisses form part of a granulite facies terrane and the nomenclature distinguishes them from compositionally similar units in lower grade terranes. Complex (Schuch et al., 1983).

NOTE: Relative ages of gneissic rocks are for the most part uncertain and no stratigraphic order is implied by the arrangement of units in the legend.

These units include the map Ray Complex (Heywood, 1964) and the Kramanchar Complex (Schuch et al., 1983).

- Geological boundary (defined/approximate, assumed, gradational)
- Interpreted boundary (geological/topographic data)
- Boundary between unassigned/subdivided units and assigned/subdivided units
- Fault (defined, approximate, inferred from geophysical data)
- Shear zones mylonite, porphyroclastic gneiss, protomylonite gneiss, granitoid rocks where no boundaries are defined
- Thrust fault (defined, approximate)
- Bedding, top known (inclined, overturned), top unknown
- Foliation (inclined, vertical, dip unknown)
- Axial trace of western/anticline, synform/syncline (arrow indicates direction of dip)
- Mixed gneiss (layered tonalite and granodiorite gneiss, hornblende-biotite gneiss and amphibolite, minor biotite- and garnet-biotite gneiss and amphibolite)
- Axial trace of overturned anticline/anticline, synform/syncline

A PRELIMINARY GEOLOGICAL COMPILATION MAP OF THE NORTHEASTERN BARREN GROUNDS, PARTS OF THE DISTRICTS OF KEEWATIN AND FRANKLIN (NTS 46, 56 and parts of 47, 57 and 66)



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