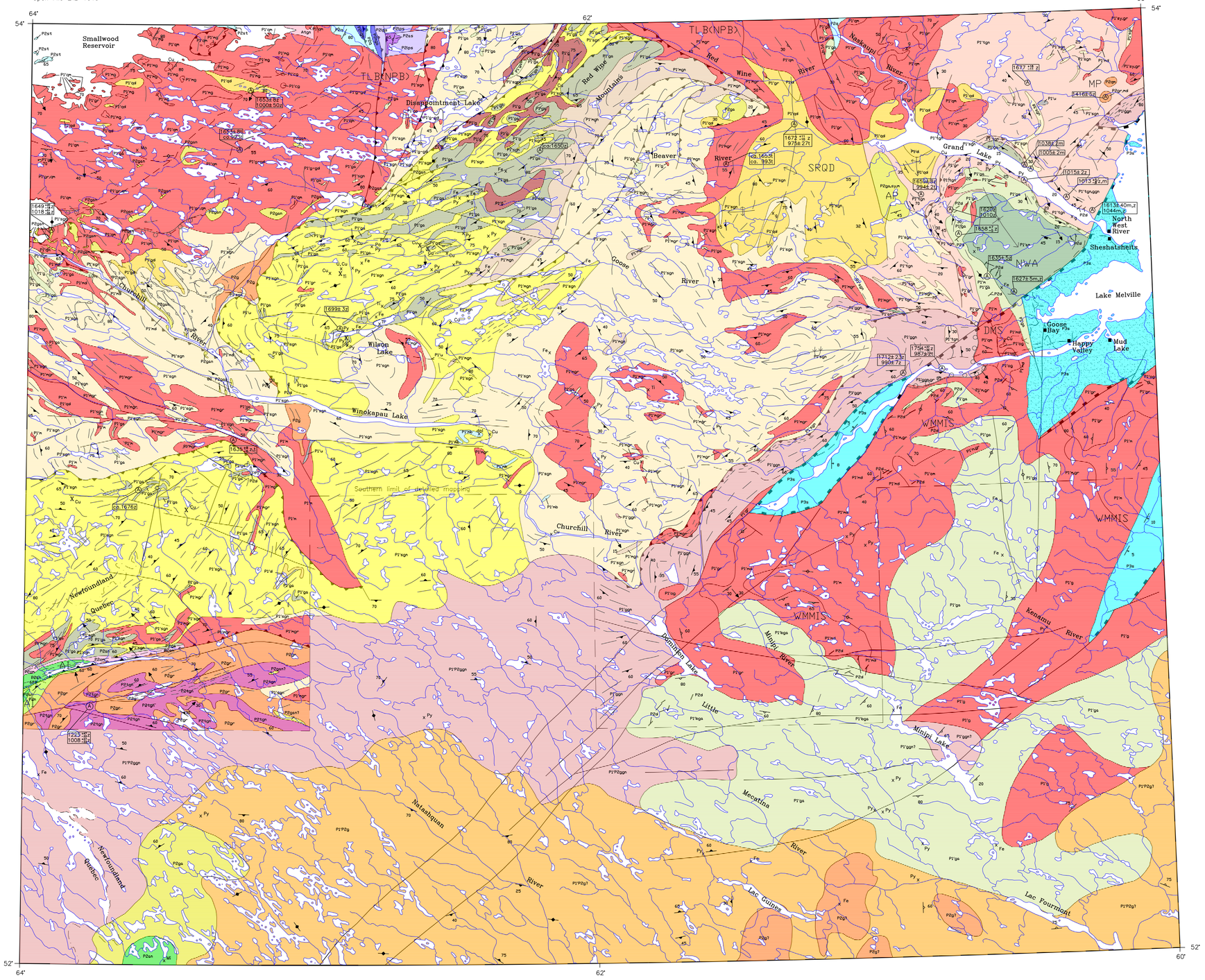
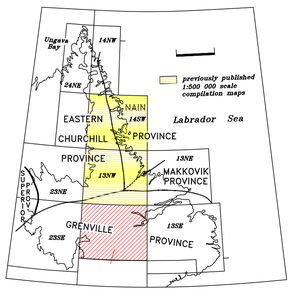
# GEOLOGY OF THE NORTH WEST RIVER AREA, CENTRAL LABRADOR, NTS 13 SW

Newfoundland Department of Mines and Energy
Geological Survey Branch
Published 1994; Map 94-117 version 1.0
Open File LAB 1019




Scale 1:500 000

0 km 10 20 30 40 50




INDEX MAP

MINERAL OCCURRENCES

Prospect o
Showing X
Indication x

MINERAL ABBREVIATIONS

Mo - Molybdenum
Cu - Copper
Ti - Titanium
Fe - Iron
Py - Pyrite
Po - Pyrrhotite
U - Uranium
g - Gossan
Mi - Muscovite and/or biotite
dol - Dolomite

Only selected mineral occurrences are shown. For further information, consult Mineral Occurrence maps 7637, 7638, 7639 and 7640, available from Publications and Information Section, Geological Survey Branch, Department of Mines and Energy, P.O. Box 8700, St. John's, NF, A1B 4J6

Map information

1) This map is part of a series of 1:500 000 compilation maps of Labrador, other parts of which are shown on the Index Map. The map was prepared digitally and printed in-house.

2) Geology has been compiled from published sources north of the limit of detailed mapping. South of this line the geology has been reinterpreted using shaded relief aeromagnetic maps prepared by G. Kilfoil of the Geophysics, Geochemistry and Terrain Sciences Section, Geological Survey Branch.

3) Not all units are in stratigraphic order

4) Subdivisons of the Precambrian time scale follow International Union of Geological Sciences (IUGS) recommendations

5) Map projection is Universal Transverse Mercator. The topographic base is taken from the digital 1:1 Million-scale map for NN-20, part of the International Map of the World series.

Copies of the map are available from the Publications and Information Section, Geological Survey Branch, Department of Mines and Energy, P.O. Box 8700, St. John's, NF, A1B 4J6

Compiled by R.J. Wardle, 1993, with assistance from L.V.J. Crisby-Whittle. Digital production by T. Leawood.

Recommended citation:
Wardle, R.J. (Compiler), 1994, Geology of the North West River Region, Central Labrador (NTS 13 SW), scale 1:500 000. Newfoundland Department of Mines and Energy, Geological Survey Branch, Map 94-117, Open File LAB 1019

SYMBOLS

Roads
Thrust, teeth pointing in direction of dip
Normal fault (ornament indicates down-thrown side, where known)
Ductile shear zone
Foliation trends
Metamorphic isograd: Kyanite (K) Sillimanite (S)
Onset of partial melting in granitoid rocks (ornament on high grade side)
Antiform axis / reclined synform axis
Limit of detailed mapping
Gneissic foliation; inclined, vertical
Foliation; inclined, vertical
Mineral lineation
Igneous layering and lamination, inclined, vertical
Age date locality (in millions of years) A 1635±5z

Note on age dates:
Ages are all U-Pb dates; z = zircon; t = titanite; m = monazite.
Ca = date for which error estimate is not available. Vertically paired ages represent upper and lower intercept values.
For further information, see the Labrador Geochronology Database (compiled by L.V.J. Crisby-Whittle, 1991) published by the Geological Survey Branch, Department of Mines and Energy, Government of Newfoundland and Labrador, Open File LAB (943) version 1.0.

## LEGEND

LATE PROTEROZOIC

P3s Double Mer Formation; conglomerate and sandstone
P3g Double Mer Formation inferred to underlie Quaternary glaciomarine sand and clay

MIDDLE PROTEROZOIC

ATIKONAK RIVER INTRUSION (AI). Age 1133-1123 Ma
P2on Pyroxene granite and monzonite
P2an Anorthosite - monzogabbro, strongly deformed and locally gneissic
P2n Norite, leuconorite and gabbronorite
P2tgn Gneissic tonalite generally at granulite facies. Age 1225+47/-32 Ma

SEAL LAKE GROUP. Age ca. 1250-1224 Ma
P2ngo Naskaupi sills: olivine gabbro-diabase
P2q Bessie Lake Formation quartzite and sericiticro-diabase quartzite
P2st Sandstone and conglomerate
P2gan SHABOGAMO GABBRO. Age 1445±4 -- 1459+23/-22 Ma Olivine gabbronorite and derived coronitic metagabbroic rocks and amphibolite

GABBROID INTRUSIONS
P2ga Gabbro, gabbronorite and deformed equivalents

MISCELLANEOUS GRANITOID INTRUSIONS
P2gr,qm,m,sy,md,g gr - granite; qm - quartz monzonite; m - monzonite; sy - syenite; md - monzodiorite; g - undifferentiated granitoid

AP - Arrowhead Lake pluton; monzonite, syenite and gabbro. Includes (AHP), age (Rb-Sr) 1307±28 Ma

MP - Mokami Hill and associated plutons; quartz monzonite to monzodiorite. Age 1416±5 Ma

P2d MEALY DYKES; diabase-gabbro dykes and derived amphibolite. Age (Rb-Sr) 1380±54 Ma, (Ar-Ar) 1215 Ma

RED WINE INTRUSIVE SUITE
P2as Red Wine alkaline complex: nepheline-, eudialite, arfvedsonite and aenigmatite-bearing syenitic plutons, generally strongly deformed
P2lps Arc Lake intrusive suite: peralkaline syenite, quartz syenite and granite. Age 1337+10/-8 Ma

EARLY and/or MIDDLE PROTEROZOIC

Rocks in southern part of area that have not been mapped in detail, nor dated
P1'P2g Granite to granodiorite, foliated to gneissic
P1P2ggn Gneisses of predominantly granitoid origin

EARLY PROTEROZOIC

GRANITOID PLUTONS and derived metamorphic rocks
P1'gr,g-gd,mg,mgr,qm,m,md,og,om,g,sy gr - granite; g-gd - granite to granodiorite; mg - microgranite and aplite; mgr - megacrystic granite - augen gneiss; qm - quartz monzonite; s - syenite; m - monzonite; md - monzodiorite; og - pyroxene-bearing granite/quartz monzonite; om - pyroxene monzonite; cg - pyroxene granite
P1'g Undifferentiated granitoid at granulite facies
P1'gd,qd,d gd - granodiorite; qd - quartz diorite; d - diorite.

DMS - Dome Mountain Intrusive Suite: monzonite, quartz monzonite, syenite and alkali-Feldspar granite. Contains numerous enclaves of metagabbro and amphibolite. Age 1627 +5/-3 Ma

WMMIS - Western Mealy Mountains Intrusive Suite: monzonite, granite and monzodiorite. Contain numerous enclaves of metagabbro and amphibolite

SRQD - Susan River Quartz Diorite; moderately to strongly foliated quartz diorite interspersed with areas of strongly foliated to gneissic granodiorite. Age 1672 +11/-10 Ma

TLB - Trans-Labrador batholith and other intrusions of interior Grenville Province. In general, these rocks become increasingly foliated and gneissic to the south. Trans-Labrador batholith in map area consists largely of:
NPB - North Pole Brook Intrusive Suite. K-Feldspar megacrystic, biotite quartz monzonite and lesser syenite, granite and microgranite. Age (Rb-Sr) 1654±11 Ma.

GABBROID INTRUSIONS and derived metamorphic rocks
P1'an Anorthosite and layered leucogabbroic rocks
P1'go Gabbro/gabbronorite and derived rocks at amphibolite facies
P1'gg Gabbro/gabbronorite and derived rocks at granulite facies
P1'bgg Biotite gabbro
P1'u Ultramafic rocks

NORTH WEST RIVER ANORTHOSITE (NWA)
Coarse-grained anorthosite and leucogabbroic rocks, having basal layered gabbro. Age 1627+13/-7 Ma

WESTERN MEALY MOUNTAINS INTRUSIVE SUITE (WMMIS)
Gabbro, biotite gabbro and undivided gabbroic rocks

METASEDIMENTARY GNEISSES
Includes Disappointment Lake Metamorphic Suite and similar rocks. Age (Rb-Sr) 1686-1666 Ma
P1'sgn Sillimanite and/or kyanite - biotite ± garnet (± retrograde muscovite) gneiss at amphibolite facies
P1'sgn Sillimanite - hypersthene - biotite ± sapphirine ± garnet, ± cordierite gneiss at granulite facies
P1'mb Dolomitic marble and calc-silicate gneiss

MAFIC GNEISS
P1'mgn Beaver gneiss: layered mafic granulite of probable supracrustal origin. Also includes other smaller bodies of intrusive or extrusive origin within metasedimentary gneiss belts

GRANITOID GNEISS
P1'tgn Grey, granodioritic to dioritic gneiss. Locally contains abundant amphibolite inclusions and amphibolite gneiss layers. Metamorphic ages range between 1677 and 1659 Ma
P1'ggn Pink granite to quartz monzonite; minor syenite gneiss. Contains numerous mafic inclusions, including relict dykes. Protolith ages 1754 - 1712 Ma. Metamorphic fabrics are largely of Grenvillian (ca. 1000 Ma.) age

ARCHEAN
A'tgn Foliated tonalite and tonalite - granodiorite orthogneiss (restricted to eastern Smallwood Reservoir)