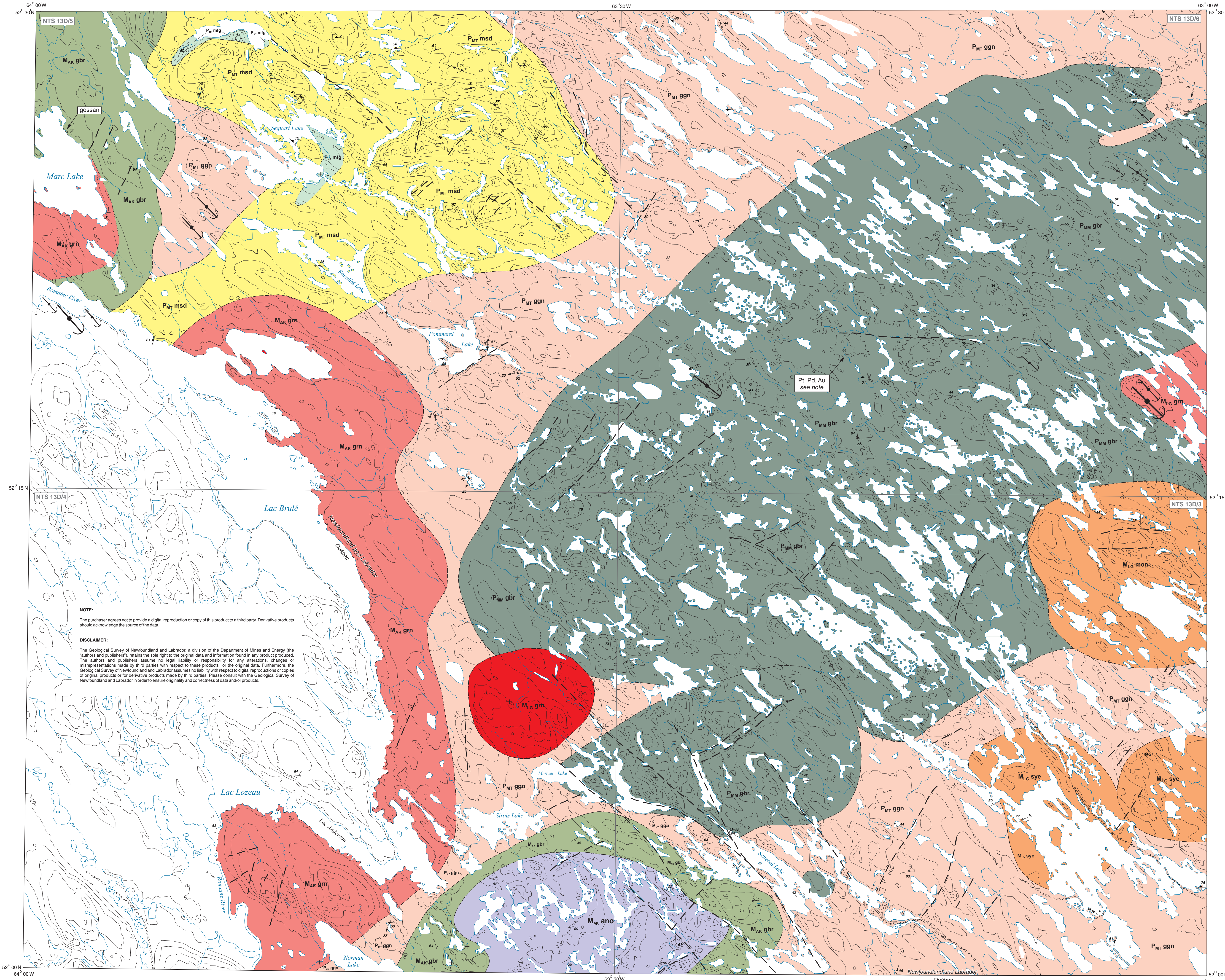




Joint project of the Geological Survey of Newfoundland and Labrador and the Geological Survey of Canada.



GOVERNMENT OF
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This map represents a preliminary interpretation of the geological field data and is subject to change without notice. Comments regarding revisions or errors are invited and should be submitted to the Director, Geological Survey of Newfoundland and Labrador, P.O. Box 8700, St. John's, Newfoundland, Canada, A1B 4X6.

MAP 2002-04
OPEN FILE 013D/0031

**GEOLOGY OF THE SENÉCAL LAKE AREA
(NTS 13D/SW), GRENVILLE PROVINCE, SOUTHERN LABRADOR**

scale: 1:100 000
0 1 2 3 4 5
kilometres

DATA POSITIONING

On this map, structural and outcrop data are plotted in the position where the data were collected in the field (i.e., symbols representing tectonic structures or primary features are not offset from the outcrop location). The centre of the symbol representing a planar fabric element (e.g., foliation or gneissosity) or a planar primary feature (e.g., bedding or gneiss layering) is plotted in the position where the data were collected in the field. The + symbol represents an outcrop that has a massive (i.e., isotropic) structure or one that does not contain a measurable fabric (e.g., frost heave or an extensively fractured outcrop).

NOTE:

Pl, Pd, and Au Showing in NTS Area 13D/06
Gneissous ultramafic rocks, part of unit P_max gbr, at an outcrop at UTM 478945 E, 579600 N (Grid Zone 20, NAD 1987, NTS area 13D/06), contain anomalous values of Pt, Pd, and Au. In addition, the samples also contain anomalous Cr and Cu. The rocks contain (values listed for samples Pt, Pd, Au, respectively):
Pt (ppb): 168, 87, 191
Pd (ppb): 622, 272, 934
Au (ppb): 136, 63, 254
Cr (ppm): 1200, 1144, 1383
Cu (ppm): 2124, 914, 3077

References: James, D.T., Nadeau, L., and Nunn, G.A.G., 2002. Geology of the Natashquan River NTS 13D/SE and Senécal Lake (NTS 13D/SW) areas, Grenville Province, southern Labrador. In Current Research, Newfoundland Department of Mines and Energy, Geological Survey Report 02.

LEGEND

LATE MESOPROTEROZOIC

Late- to post-Grenvillian intrusions II
M_max grn Granite: pink-weathering, mainly coarse- and medium-grained biotite granite and quartz monzonite, locally K-feldspar porphyritic granite; mainly isotropic, although contains a local, weak foliation that may be a relict igneous foliation

Late- to post-Grenvillian intrusions I

M_max sye, M_max mon Syenite and monzonite: pink-weathering, mainly coarse- and medium-grained, clinopyroxene-bearing syenite (sye), syenite (sye), and monzonite (mon); mainly isotropic although contains a local, weak foliation that may be a relict igneous foliation; clinopyroxene is variably replaced by amphibole

Atkinson River massif (ca. 1125 to 1133 Ma)

M_max grn Granite: mainly pink- to pale pink-weathering biotite granite, K-feldspar porphyritic granite, quartz monzonite and local quartz syenite; isotropic to locally foliated and recrystallized

M_max gbr Gabbro: medium- to coarse-grained gabbro, gabbro-norite, and norite; contains fresh, igneous textures, or is recrystallized and foliated, massive or is locally layered, especially along the east shore of Marc Lake

M_max ano Anorthosite: variably recrystallized and foliated, grey, or grey and white-weathering anorthosite; mafic igneous minerals are mainly replaced by hornblende and biotite

EARLY MESOPROTEROZOIC TO LATE PALEOPROTEROZOIC (?)

M_max gbr Gabbro and gabbro-norite: medium- to coarse-grained, massive, fresh gabbro and gabbro-norite

M_max msd Metasedimentary gneiss: rusty-weathering, upper amphibole-facies gneiss including biotite + garnet + sillimanite pelitic migmattite, and local 1- to 2-metre-thick layers of quartzite

LATE PALEOPROTEROZOIC

Mealy Mountains intrusive suite

P_max gbr Gabbro - gabbro-norite: variably metamorphosed and deformed rocks including gabbro-norite, gabbro, leucogabbro, minor ultramafic rocks, and olivine-bearing gabbro-norite; some components are pervasively recrystallized, foliated and do not have igneous mineral textures, whereas other components consist of fresh, and undeformed rocks containing igneous layering or lamination

P_max ano Anorthosite: white- to grey-weathering, massive, medium-grained, recrystallized anorthosite containing relicts of coarse-grained, grey- to blue-weathering plagioclase, contains minor biotite

P_max mlg Undivided granitoid rocks and gneiss: foliated and locally gneissic granitoid rocks including clinopyroxene-bearing monzonite, quartz monzonite, monzonite, and granodiorite

Pre-Mealy Mountains intrusive suite rocks

P_max mgr Metamorphosed gabbro: amphibole- to granulite-facies mafic gneiss interpreted to be derived from gabbro; age undetermined, although some rocks may be equivalent to P_max gbr rocks

P_max grn Metamorphosed granite: pink-weathering, fine to medium grained, recrystallized biotite granite; rocks are foliated but only locally gneissic

P_max gbr K-feldspar porphyritic granite: grey, white- to light pink-weathering meta-granite containing biotite and minor hornblende; rocks are variably foliated, recrystallized, and medium- to coarse-grained having a relict K-feldspar porphyritic texture; locally, rocks are extensively recrystallized, strongly foliated and have an augen structure

P_max ggn Orthogneiss: a heterogeneous unit of amphibole- and local granulite-facies, pink- and grey-weathering granitoid orthogneiss derived mainly from granodiorite, granite, mafic diorite and tonalite; outcrops commonly contain deformed mafic xenoliths, relicts of pre-metamorphic mafic dykes, and granite aplite dykes which cross-cut the gneissosity

P_max mlg Mafic gneiss: granulite-facies mafic gneiss consisting of variable proportions of pyroxene, amphibole, garnet, plagioclase and biotite; in part, may be derived from a supracrustal protolith

P_max msd, P_max dxt Metasedimentary gneiss: black, brown- to rusty-weathering granulite-facies metasedimentary gneiss (P_max msd) and related diatexite (P_max dxt); rocks contain biotite, garnet, and local sillimanite; orthopyroxene occurs in some sillimanite rocked rocks; unit contains dismembered relicts of presumed iron formation, and local, < 20-cm-thick, boudinaged layers of quartzite

Note: This legend applies to open file maps for the Natashquan River (NTS 13D/SE) and Senécal Lake (NTS 13D/SW) map areas. Not all of the units in the legend appear on this map.

SYMBOLS

- Contact (defined, approximate, assumed)
- Prominent topographic lineament assumed to be a minor, post-Grenvillian (Neoproterozoic ?) fault
- Prominent lineament in the magnetic anomaly pattern
- Outcrop (massive structure or no structural fabrics measured)
- Igneous layering, or igneous lamination
- Dyke
- Foliation (inclined, vertical)
- Gneissosity (inclined, vertical)
- Gneissosity or foliation and contained mineral elongation lineation
- Planar fabric in highly strained rocks
- Drumlinoid ridge (rounded 'arrow' points in the interpreted ice-flow direction)
- Esker

