

LEGEND

- MIDDLE PROTEROZOIC**
- 10 Pink, Grenvillian-age pegmatite dykes containing biotite and muscovite, weakly deformed
 - 9 Late diabase dykes, weakly deformed
 - 8 Shabogamo Gabbro: gabbro, olivine gabbro, gabbronorite and rare occurrences of troctolite
- LOWER PROTEROZOIC**
- 7 Charnockite and Mangerite: grey to pink charnockite and mangerite; the rocks have a phaneritic texture and isotropic structure
 - 6 Granite: 6a, variably foliated K-feldspar megacrystic granite that locally contains orthopyroxene; 6b, isotropic to foliated granite containing biotite; 6c, monzonite, quartz monzonite and quartz syenite
- OSSOK MOUNTAIN INTRUSIVE SUITE (Subunits 5a to 5h)**
- 5a, fine- to coarse-grained gabbronorite that is variably foliated, mildly recrystallized and contains relict igneous textures and structures; 5b, leucogabbronorite and anorthosite; 5c, isotropic to foliated, fine-grained and extensively recrystallized gabbronorite; 5d, olivine gabbronorite and gabbro; 5e, pyroxenite; 5f, variably deformed and recrystallized gabbro; 5g, amphibolite and amphibolite gneiss; 5h, grey to brown, serpentinized troctolite dykes
 - 4 Granitoid Gneiss: pink and grey, tonalite and granodiorite migmatite, and orthogneiss. The rocks contain biotite, hornblende, and locally, minor amounts of garnet and epidote
 - 3 Trans-Labrador Batholith: 3a, pink, isotropic to foliated monzogranite and quartz monzonite containing biotite and minor amounts of hornblende and garnet; locally porphyritic, containing K-feldspar phenocrysts; 3b, pink to grey, K-feldspar megacrystic granite; 3c, pink to grey granitic gneiss, locally similar to Unit 4, and K-feldspar augen gneiss gradational with subunit 3a; all subunits contain pink, syenogranite dykes
 - 2 Mafic Supracrustal Gneiss: very well layered mafic gneiss that is locally interlayered with paragneiss similar to subunit 1a, and contains rare occurrences of metamorphosed siliceous carbonate. The mafic rocks are variably migmatized
 - 1 Paragneiss: pink and grey-weathering paragneiss containing biotite, and commonly garnet and an aluminum-silicate; rocks are variably migmatized and contain two phases of K-feldspar-bearing leucosomes; 1a, biotite migmatite; 1b, retrogressed biotite migmatite containing muscovite; 1c, subunit 1a containing psammite layers; 1d, subunit 1a containing quartzite layers; 1e, heterogeneous supracrustal gneiss including subunits 1a and 1c, mafic gneiss inferred to be equivalent to Unit 2, and pre-Labradorian amphibolite dykes

SYMBOLS

- Rock outcrop..... x
- Igneous layering..... /
- Main penetrative foliation..... /
- Gneissosity..... /
- High-grade shear zone - protomylonite, mylonite and ultramylonite..... /
- Low-grade shear zone - protomylonite, mylonite and ultramylonite..... /
- Mineral elongation lineation..... /
- Mineral elongation lineation in high-grade shear zone..... /
- Mineral elongation lineation in low-grade shear zone..... /
- minor fold axis..... /
- Minor fold axis and sense of asymmetry (S-fold, Z-fold)..... /
- Sheath fold axis..... /
- Fold axis in high-grade shear zone..... /
- Fold axis in low-grade shear zone..... /
- Grenvillian high-strain zone (Lac Joseph terrane - Molson Lake terrane boundary zone)..... /
- Shear zone or fault..... /
- Structural fabric elements that are inferred to be Labradorian are decorated with one dip or plunge indicator. Structural fabric elements that are inferred to be Grenvillian are decorated with two dip or plunge indicators. For example
- Labradorian foliation..... /
- Grenvillian foliation..... /
- Grenvillian gneissosity..... /
- Geochemical sample location and number..... □

METAMORPHIC ASSEMBLAGE SYMBOLS

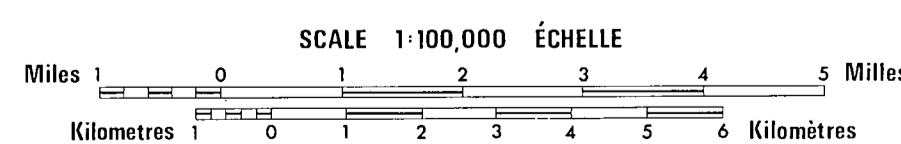
- paragneiss:
- kya-bio-kfs-grt
 - kya-sil-bio-kfs-grt (kya > sil)
 - sil-kya-bio-kfs-grt (sil > kya)
 - sil-bio-kfs-grt
 - bio-kfs-grt
 - opx-bearing
 - bio-mus
 - kyanite isograd
- mafic supracrustal gneiss:
- ▲ granulite-facies mafic gneiss
 - ▲ granulite-facies mafic gneiss variably retrogressed to amphibolite facies
 - ▲ amphibolite-facies mafic gneiss
- Ossok Mountain intrusive suite:
- Zone 1 - granulite facies
 - Zone 2 - granulite facies variably retrogressed to amphibolite facies (moderate retrogression)
 - Zone 3 - extensively retrogressed granulite-facies rocks and amphibolite-facies gneiss

GEOCHRONOLOGICAL DATA

- U - Pb → Isotopic age date locality
- U - Pb - uranium - lead isotopic system
- Z - zircon
- r - rutile
- t - titanite
- b - baddeleyite
- c - concordant data
- d - discordant data
- ui - upper intercept
- li - lower intercept
- mt - metamorphic age (interpretation)
- lg - igneous age (interpretation)
- DJ-90-10 sample number (field number)

TOPOGRAPHIC SYMBOLS

- Road..... /
- Winter road, trail..... /
- Railway line..... /
- Building..... □
- Powerline..... /



MAP 93-54

GEOLOGY OF THE GRENVILLE PROVINCE IN THE
LAC JOSEPH AREA (NTS 23H/SW), WESTERN LABRADOR

Geology compiled by D.T. James from field work by D.T. James, D. Dunphy and D.M. Stephenson in 1990, and by J.N. Connelly, in 1987, in the Lac Joseph area.

This map accompanies Report 93-2 by D.T. James.

This map may be subject to revision and correction.

Geological cartography by the Cartographic Section, Geological Survey Branch, Department of Mines and Energy, Government of Newfoundland and Labrador.

Approximate magnetic declination for the southwest corner of the study area was 29° 53' west in 1964. Mean annual change: 3.9' easterly.

SCALE: 1:100 000. Contour interval is 200 feet.

Publications of the Geological Survey Branch are available from the Geological Survey Branch, Publications and Information Section, Newfoundland Department of Mines and Energy, P.O. Box 8700, St. John's, Newfoundland, A1B 4J6. Tel.: (709) 729-3159 Fax: (709) 729-3493

