Natural Resources Canada / Ressources naturelles Canada

GEOLOGICAL SURVEY OF CANADA / COMMISSION GÉOLOGIQUE DU CANADA

MAP 1893A

SHEET 1 OF 2

GEOLOGY

CORNER BROOK LAKE REGION

NEWFOUNDLAND

Scale 1:50 000 - Échelle 1/50 000

Kilometres 1 0 1 2 3 4 Kilomètres

Universal Transverse Mercator Projection
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Projection transverse universelle de Mercator
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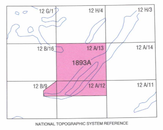
LOCATION MAP



NATIONAL TOPOGRAPHIC SYSTEM REFERENCE

Geology by P. A. Cawood, and J.A.M. van Gool, 1994

Digital cartography by M. Hudon, Geoscience Information Division

Any revisions or additional geological information known to the user would be welcomed by the Geological Survey of Canada

Digital base from data compiled by Geomatics Canada, modified by the Geoscience Information Division

Copies of the topographic maps for this area may be obtained from the Canada Map Office, Natural Resources Canada, Ottawa, Ontario, K1A 0E9

Magnetic declination 1998, 23°13' W, decreasing 7.1' annually

Elevations in metres above mean sea level

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1981: Geology of the Corner Brook Lake area, western Newfoundland; M.Sc. thesis, Memorial University of Newfoundland, St. John's, Newfoundland, 370 p.

Knapp, D.A.
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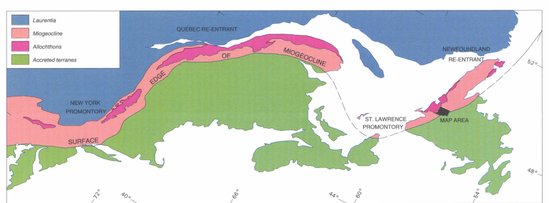
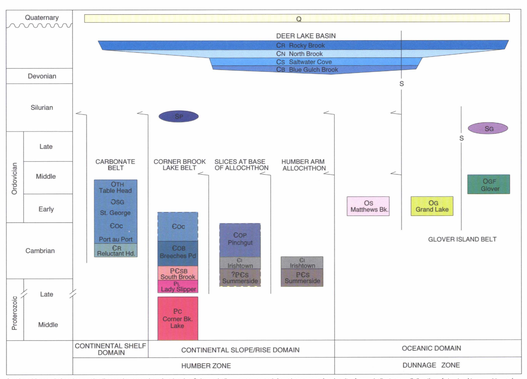
1996: Relationships along the eastern margin of the Humber Arm Allochthon between Georges Lake and Corner Brook, western Newfoundland; in Current Research, Part A; Geological Survey of Canada, Paper 86-1A, p. 759-765



Allochthons in the Canadian Appalachians with the location of Corner Brook Lake region indicated by box



Stratigraphic correlation chart and palinspastic restoration of rock units. Columns indicate age span or inferred age span of rock units. Arrows indicate overall direction of structural transport toward and onto the ancient continental margin that led to the present stacking order. Upper limit of arrows indicate approximate time of transport. Vertical lines with 'S' indicate strike-slip fault

LEGEND

COVER ROCKS

CENOZOIC — QUATERNARY

- **Q** — *Gravel and glaciofluvial deposits: sand, gravel, boulder clay, till*

DEER LAKE BASIN

CARBONIFEROUS (VISÉAN) — DEER LAKE GROUP (Cn-Cb)

- **Cb** — *ROCKY BROOK FORMATION: red-brown siltstone and mudstone with sandstone and oil shale*
- **Cn** — *NORTH BROOK FORMATION: red-brown siltstone and sandstone with pebble conglomerate and minor limestone*

CARBONIFEROUS (TOURNASIAN) — ANGUILLE GROUP (Cs-Cb)

- **Cs** — *SALTWATER COVE FORMATION: grey sandstone and siltstone, black carbonaceous mudstone with minor conglomerate, limestone, and dolostone*
- **Cb** — *BLUE GULCH BROOK FORMATION: grey pebble to cobble conglomerate, micaceous sandstone and rare impure limestone*

PLUTONIC ROCKS

SILURIAN

- **SP** — *Pegmatite and granite: intrusive into internal domain of Humber Zone*
- **Sg** — *Plutons intrusive into Dunnage Zone mafic igneous rocks: medium-grained equigranular granodiorite with minor granite, gabbro, and diorite; SGb, Glover Island Granodiorite; SGR, Red Indian Brook Granodiorite; SGI, Island Pond pluton; SGL, Little Paddle Point pluton*

DUNNAGE ZONE

PALEOZOIC — ?LOWER ORDOVICIAN

- **KPS** — *Kettle Pond shear zone*
- **OGF / OGFp / OGFf** — *GLOVER FORMATION: mafic and silicic volcanic rock and high-level intrusives with minor volcaniclastic sedimentary rock; OGFp, pillow lava and diabase; OGFf, felsic and mafic volcanic rock*
- **Og / Ogg / Ogu / Ogga** — *GRAND LAKE COMPLEX: massive and layered gabbro, variably serpentinized and metasomatized ultramafic rock, basal greenschist, trondhjemite and crosscutting mafic dykes; OGgs, greenschist; OGu, serpentinized ultramafic rock; OGg, gabbro*
- **Os** — *MATTHEWS BROOK SERPENTINITE: serpentinized ultramafic rock with talc-carbonate and quartz-carbonate-fuchsite alteration; restricted to fault-bounded slivers in internal domain of Humber Zone*

HUMBER ZONE

HUMBER ARM ALLOCHTHON (EXTERNAL DOMAIN)

PROTEROZOIC — LOWER CAMBRIAN

- **Ci** — *IRISHTOWN FORMATION: dark grey to black shale with buff to grey quartzite and pebble to boulder conglomerate*

UPPER PROTEROZOIC TO LOWER CAMBRIAN

- **PCs** — *SUMMERSIDE FORMATION: red, green, and grey sandstone, granule to pebble conglomerate and shale*

SLICES OF SEDIMENTARY ROCK AT BASE OF ALLOCHTHON

PALEOZOIC — ?MIDDLE CAMBRIAN TO LOWER ORDOVICIAN

- **COP / COPc** — *PINCHGUT FORMATION: thin-bedded limestone and dolomitic mudstone, grey to green shale, pebble to boulder platy limestone conglomerate, and dark green sandstone; COPc, predominately limestone and limestone conglomerate*

TACONIAN AUTOCHTHON (EXTERNAL DOMAIN)

CARBONATE BELT

PALEOZOIC — MIDDLE CAMBRIAN TO MIDDLE ORDOVICIAN — PORT AU PORT, ST. GEORGE, AND TABLE HEAD GROUPS

- **COc** — *Grey limestone and dolostone, minor shale; Oto - St. George Group, bedded dolostone and limestone; OTh, Table Head Group, bedded grey limestone*

UPPER CAMBRIAN

- **Cr** — *RELUCTANT HEAD FORMATION: thin-bedded limestone, dolomitic mudstone, grey to green shale, and platy limestone conglomerate*
- **Crc** — *Crc, marble-rich sequence*

TACONIAN AUTOCHTHON (INTERNAL DOMAIN)

CORNER BROOK LAKE BELT

PALEOZOIC — ?LOWER CAMBRIAN TO LOWER ORDOVICIAN — FLEUR DE LYS SUPERGROUP

- **COB / COBc** — *BREECHES POND FORMATION: grey calcareous schist, calc-mica schist, mica and graphitic schist, marble and meta-limestone conglomerate; COBc, marble-rich sequence*

PROTEROZOIC — ?UPPER PROTEROZOIC TO LOWER CAMBRIAN — MOUNT MUSGRAVE GROUP (PCsb)

- **PCSB** — *SOUTH BROOK FORMATION: psammitic and pelitic schist, quartzite, garnet schist, and minor marble, amphibolite and quartz pebble conglomerate; PCsba, quartzofeldspathic schist and gneiss, minor pelite, and amphibolite, with pervasive albite porphroblasts, includes granitoid gneiss which is probably equivalent to P̶, or Pc*

VOLCANIC AND INTRUSIVE ROCKS

LATE PROTEROZOIC

- **PL** — *LADY SLIPPER PLUTON: deformed granodiorite and amphibolite*

BASEMENT ROCKS

MIDDLE AND UPPER PROTEROZOIC

- **Pc** — *CORNER BROOK LAKE COMPLEX: granitoid gneiss with amphibolite minor quartzite and psammitic gneiss*

Geological boundary (defined, approximate or assumed)
Bedding (S_0, upright, overturned)
Layering or primary banding in plutonic rocks
Attitude of mafic dykes (inclined)
Gneissosity in basement rocks
Cleavage or schistosity (S_1, S_2, S_3, S_4)
Fracture cleavage
Fault orientation
Fold axis (F_2, vergence not determined, S-fold, Z-fold, M-fold)
Fold axis (F_1, F_3, F_4)
Crenulation lineation (L_c, L_{c1})
Intersection lineation (L_i)
Fold axis (kink)
Slickenside
Mineral or stretching lineation
Thrust fault (defined, approximate or assumed)
High-angle fault (defined, approximate or assumed)
Extensional fault (defined, approximate or assumed)
Axis of upright anticline with plunge, overturned anticline
Axis of upright syncline with plunge, overturned syncline
Axis of recumbent fold
Line of section — A A'

COOPERATION — COOPERATION AGREEMENT ON MINERAL DEVELOPMENT / ENTENTE DE COOPÉRATION SUR L'EXPLOITATION MINÉRALE

Contribution to Canada-Newfoundland Cooperation Agreement on Mineral Development (1988-1994), a subsidiary agreement under the Economic and Regional Development Agreement.

Contribution à l'Entente de coopération Canada-Terre-Neuve sur l'exploitation minérale (1988-1994), entente auxiliaire négociée en vertu de l'Entente Canada-Terre-Neuve de développement économique et régional.

Canada — Newfoundland / Terre-Neuve

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To accompany GSC Bulletin 427

Sheet 1 of 2, Geology

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Copies of this map may be obtained from the Geological Survey of Canada, 601 Booth Street, Ottawa, Ontario K1A 0E8; 3303-33rd Street, N.W., Calgary, Alberta T2L 2A7

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