GEOLOGY OF THE STRAIT OF BELLE ISLE REGION

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LEGEND

MISSISSIPPIAN

MCR CAPE ROUGE FORMATION: Grey to brown sandstone and plant-bearing siltstone and shale

MCH CROUSE HARBOUR FORMATION: Brown to red conglomerate, minor sandstone

AUTOCHTHONE

MIDDLE ORDOVICIAN

mOGT GOOSE TICKLE FORMATION: Grey siltstone, shale, slate, and greywacke; mOGT, includes pebble to cobble conglomerates, made up of debris derived from the Northwest Arm Formation; mOGT2 includes marble and limestone beds; SUGARLOAF SCHIST MEMBER (mOGT3) includes semi-pelitic, pelitic, and calc-silicate schist and minor marble

mOTH TABLE HEAD FORMATION: Light to dark grey, hackly-weathering limestone and dark grey shale

OST Undivided ST. GEORGE GROUP and TABLE HEAD FORMATION

LOWER ORDOVICIAN

ST. GEORGE GROUP

10s | 10s1 | 10s2 | 10s3 | 10s4

10s UNDIVIDED: Light to dark grey and buff dolomite and limestone

10s1 DIVISION D: Mottled white and brown dolomite containing greater than thirty percent white sparry dolomite

10s2 DIVISION C: Grey, fine- to medium-grained stylolitic limestone

10s3 DIVISION B: Dark brown to tan, porous, coarsely crystalline dolomite

10s4 DIVISION A: Grey to light brown, fine-grained dolomite with grey to brown chert nodules

LOWER AND MIDDLE CAMBRIAN AND (?) UPPER CAMBRIAN

HAWKE BAY FORMATION

€HB2 UPPER MEMBER: Light to dark grey dolomite and interbedded grey shale

€HB1 LOWER MEMBER: White orthoquartzite

€FH Undivided FORTEAU and HAWKE BAY FORMATIONS

LOWER CAMBRIAN

1€F FORTEAU FORMATION: Red to grey nodular limestone and grey shale; (1€F1) includes basal unit at Canada Bay of purple and white limestone of the DEVILS COVE FORMATION; (1€F2) includes upper unit on Belle Isle of white-weathering sandstone, siltstone, chert and grey fragmental limestone of the WHITE POINT FORMATION

LOWER CAMBRIAN and (?) HADRYNIAN

1€B BRADORE FORMATION: Red to pale pink and maroon arkosic sandstone, minor conglomerate

HADRYNIAN and/or LOWER CAMBRIAN

H€LC LIGHTHOUSE COVE FORMATION: Black to dark green and purple to reddish brown basalt, green and purple agglomerate, breccia and tuff

d LONG RANGE SWARM: Diabase and metadiabase dykes

H€B BATEAU FORMATION: White quartzite, minor grey to purple shale and plutonic boulder conglomerate

ALLOCHTHONE

(EMPLACED DURING MIDDLE ORDOVICIAN)

NORTHWEST ARM SLICE

[Structurally overlies GOOSE TICKLE FORMATION]

10NA NORTHWEST ARM FORMATION: Black, green and greyshale with well-bedded units of buff-weathering calcareous siltstone and limestone breccia; displays chaotic internal structure with resistant beds forming boudins and blocks within a shaly matrix

MAIDEN POINT SLICE ASSEMBLAGE

[Structurally overlies NORTHWEST ARM SLICE and GOOSE TICKLE FORMATION]

GRANDOIS SLICE

[Structurally overlies MAIDEN POINT SLICE ASSEMBLAGE]

10I IRISH FORMATION: Sandy limestone, local quartzite and green schist

10SJI ST. JULIEN ISLAND FORMATION: Red to purple polymictic conglomerate, minor greywacke, includes local pre-tectonic gabbro

MILAN ARM MÉLANGE

[Structurally overlies MAIDEN POINT SLICE ASSEMBLAGE and GOOSE TICKLE FORMATION]

OMA MILAN ARM MÉLANGE: Black and green shale matrix containing a variety of rock fragments up to a mile in width; large tabular fragments are:- (OMv) MAIDEN POINT mafic volcanic rocks (OMw) MAIDEN POINT greywacke (OMdi) diorite, (OMv) Cape Onion mafic volcanic rocks, (OMub) WHITE HILLS PERIDOTITE, (OMm) GREEN RIDGE AMPHIBOLITE, foliated gabbro, biotite schist and coarse-grained pyroxenite and hornblendite

CAPE ONION SLICE

[Structurally overlies MAIDEN POINT SLICE ASSEMBLAGE and GOOSE TICKLE FORMATION]

10CO CAPE ONION FORMATION: Dark green to black mafic pillow lava, minor agglomerate, tuff and black, pyritic, graptolite-bearing shale

ST. ANTHONY SLICE ASSEMBLAGE

[Structurally overlies MAIDEN POINT SLICE ASSEMBLAGE, CAPE ONION SLICE, GOOSE TICKLE FORMATION and MILAN ARM MÉLANGE]

ST. ANTHONY COMPLEX

10ub WHITE HILLS PERIDOTITE: Brown-weathering, serpentinised and foliated harzburgite, dunite and lherzolite, includes finely-banded amphibolite-bearing rocks at its base

CRYSTALLINE BELT

DEVONIAN

Dg BELL ISLAND GRANITE: Massive, medium-grained, grey to pink microcline granite

GRENVILLE OROGEN

HELIKIAN AND/OR HADRYNIAN

d Basic dykes of Southeast Labrador
Metabasalt dykes

HELIKIAN

Megacrystic Granitic Rocks

Hgn-k Quartz monzonite, granodiorite, some granite

ANORTHOSITE SUITE

Hornblende-bearing Intrusive Granitic Rocks

Hgn-h Quartz monzonite, granite
Hgd-h Granodiorite, quartz monzonite
Hgm Fine-grained quartz monzonite

Hyh Mangerite

Metamorphosed Basic and Ultramafic Intrusive Rocks
(units not arranged in order of intrusion)

Hm Amphibolite
Hm-h Hypersthene-bearing amphibolite
Hbo Metatroctolite
Hub Meta-ultramafite
Hm-x Norite, augite-bearing amphibolite
Hb-k Mangeronorite (norite-like rock bearing substantial potash in antiperthite)
Hm-a Anthophyllite-bearing amphibolite
Hb Undivided

Massive Equigranular Granitic Rocks

Hgd Granodiorite, quartz monzonite; some granite

Hybrid Rocks

Hgn-k Gneisses and megacrystic granitic rocks; (Hgn) gneisses and massive granitic rocks

Hdi Diorite, quartz diorite

Hgdn Foliated granodiorite, quartz monzonite; some granite

HELIKIAN AND/OR APHEBIAN

BASEMENT GNEISS COMPLEX
(units not arranged in order of intrusion)

AHn Leucocratic to melanocratic gneiss; some quartz-rich gneiss, pelitic gneiss and schist and amphibolite; minor calc-silicate gneiss
AHng Chiefly leucocratic (quartz-microcline-plagioclase) gneiss, color index 0 to 5
AHn-b Chiefly mesocratic (biotite-quartz-microcline plagioclase) gneiss, color index 5 to 15
AHn-bh Chiefly melanocratic (? hornblende-biotite-quartz ? microcline-plagioclase) gneiss, color index >15
AHn-q Quartz-rich leucocratic and mesocratic gneiss, quartzite
AHn-s Pelitic gneiss and schist (chiefly sillimanite-microcline-cordierite-bearing rock and retrograde equivalents)
AHmyf Leucocratic and mesocratic gneiss undivided

AHs FOURCHÉ POINT SCHIST: Quartz-eye schist

AHmyl Felsic protomylonite

TORRENT COVE ASSEMBLAGE

AHsl Phyllonite
AHn1 Schistose mesocratic biotite-quartz feldspar gneiss
AHn-m Muscovite-chlorite-quartz-feldspar schist and quartz-rich gneiss

H€UB Minor serpentinized ultramafic rocks (may be a block in a mélange beneath the Maiden Point Slice Assemblage)

H€MP MAIDEN POINT FORMATION:
(H€MPw) Coarse-grained greywacke; red, green, purple and black flake, quartz pebble conglomerate, minor limestone conglomerate;
(H€MPs) post-tectonic cordierite-andalusite hornfels;
(H€MPv) mafic agglomerate and tuff, massive basaltic flows, local pillow lava
(H€di) medium- to coarse-grained diorite and gabbro, intrusive into mafic dykes and sills

H€GR GREEN RIDGE AMPHIBOLITE: Well-foliated amphibolite and garnetiferous amphibolite, minor marble and pre-tectonic gabbro; includes pyroxene-bearing amphibolite at the WHITE HILLS PERIDOTITE contact. Gradational metamorphic contact with the GOOSE COVE SCHIST

H€GC GOOSE COVE SCHIST: Greenschist derived mainly from thinly-layered tuffs, mafic agglomerate and flows; includes black and green pelitic schist, thin marble beds and pre-tectonic gabbro sills.
H€GC, FISHOT ISLANDS MEMBER: greywacke and psammitic schist. Gradational metamorphic contact with the Ireland Point Volcanics

H€IP IRELAND POINT VOLCANICS: Schistose to relatively undeformed purple, red and green agglomerate and mafic pillow lava

FLEUR DE LYS SUPERGROUP

H€F1 | H€F2 | H€F3

H€F1 Meta-greywacke, pebbly psammitic and semi-pelitic schist

H€F2 Actinolite-chlorite schist

H€F3 Albite-muscovite psammitic and pelitic schist with minor graphitic schist, marble and pebbly quartzite