THESIS STUDY LOCATIONS : STRATIGRAPHIC LEGEND

OFM 85-01
2 of 2

OFM 85-01 (2 of 2)

TIME SCALE (Ma): 140, 210, 247, 290, 340, 370, 415, 436, 500, 580, 900

PHANEROZOIC: MESOZOIC (CRETACEOUS – EARLY; JURASSIC – EARLY; TRIASSIC – LATE); PALAEOZOIC (PERMIAN; CARBONIFEROUS – LATE, EARLY; DEVONIAN – LATE, MIDDLE, EARLY; SILURIAN – LATE, MID, EARLY; ORDOVICIAN – LATE, E.; CAMBRIAN – LATE, MIDDLE, EARLY)

PROTEROZOIC: HADRYNIAN; HELIKIAN OR OLDER ?

SOUTHERN MAINLAND

85 — εK — red and gray clay, kaolin, silica sand, lignite

FUNDY GROUP

38,16,5 / 386,166 / 297,336

- εJsb — *SCOTS BAY FORMATION* (εJsb) — sandy limestone, calcareous sandstone
- ŦJnm — *NORTH MOUNTAIN FORMATION* (ŦJnm) — basalt
- lŦb — *BLOMIDON FORMATION* (lŦb) — siltstone, shale, claystone
- lŦw — *WOLFVILLE FORMATION* (lŦw) — red conglomerate, arkose, sandstone, shale

PICTOU GROUP

- lCsv — *SCOTCH VILLAGE FORMATION* (lCsv) — grey sandstone, shale

*** CANSO GROUP**

310 — Cwb — *WATERING BROOK FORMATION* (Cwb) — mudstone, shale, gypsum, anhydrite, halite

WINDSOR GROUP

252,126,605,508 / 373,313,611,28 / 483,314,11 / 249,125,56

- Undivided WINDSOR GROUP (εCw)
- εCwc — C - E subzones (εCwc): *MURPHY ROAD & GREEN OAKS FORMATIONS* — sandstone, siltstone, limestone, dolostone, anhydrite, gypsum
- εCwb — B subzone (εCwb): *WENTWORTH STATION, MILLER CREEK & MacDONALDS ROAD FORMATIONS* — siltstone, limestone, dolostone
- εCwa — A subzone (εCwa): *WHITE QUARRY, MACUMBER, STEWIACKE, CARROLLS CORNER, MEAGHERS GRANT (stippled) & GAYS RIVER FORMATIONS* — anhydrite, gypsum, halite, siltstone, limestone, dolostone, shale

HORTON GROUP

- Undivided HORTON GROUP (εCh)
- εCc — *CHEVERIE FORMATION* (εCc) — sandstone, siltstone, shale, arkose, conglomerate
- εChb — *HORTON BLUFF FORMATION* (εChb) — sandstone, shale, dolomite, conglomerate
- εCa — *AINSLIE FORMATION* (εCa) — mudstone, siltstone, conglomerate
- εCs — *STRATHLORNE FORMATION* (εCs) — siltstone, shale, dolomite, conglomerate
- εCcn — *CRAIGNISH FORMATION* (εCcn) — arenite, siltstone, sandstone

εDt — *TORBROOK FORMATION* (εDt) — shale, siltstone, quartzite, limestone, iron formation

95 / 462

- lSn — *NEW CANAAN FORMATION* (lSn) — mafic and felsic tuff, siltstone, slate
- lSk — *KENTVILLE FORMATION* (lSk) — slate, siltstone
- OSw — *WHITE ROCK FORMATION* (OSw) — quartzite, slate, siltstone with rhyolitic tuff and basalt at base
- OSwv — *WHITE ROCK FORMATION* (OSwv) at Yarmouth and Cape St. Mary — rhyolite, basalt, mafic and felsic tuff and metamorphosed equivalents

MEGUMA GROUP

452,598,537 / 199,45,506 / 210,131,553 / 238,300

- €Oh — *HALIFAX FORMATION* (€Oh) — slate, siltstone, rare limestone at base
- €Ohm — Metamorphosed *HALIFAX FORMATION* (€Ohm) — schist
- €Og — *GOLDENVILLE FORMATION* (€Og) — greywacke, slate
- €Ogm — Metamorphosed *GOLDENVILLE FORMATION* (€Ogm) schist
- €Ogg — *GOLDENVILLE FORMATION* pervasively injected by granite (€Ogg)
- ?€Ogn — (?€Ogn) Gneiss and migmatite (may be metamorphosed equivalents of Meguma Group

NORTHERN MAINLAND

FUNDY GROUP

- εJm — *McCOY BROOK FORMATION* (εJm) — red wacke, siltstone, basalt
- ŦJnm — *NORTH MOUNTAIN FORMATION* (ŦJnm) — basalt

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- lŦ — Undivided LATE TRIASSIC (lŦ)
- lŦb — *BLOMIDON FORMATION* (lŦb) — red siltstone, quartz wacke
- lŦw — *WOLFVILLE FORMATION* (lŦw) — red quartz wacke, siltstone, conglomerate

PICTOU & STELLARTON GROUPS

- lCp, lCs — Red and grey sandstone, siltstone, shale, conglomerate, coal; Informal rock units - dashed lines

CUMBERLAND GROUP

328 / 464

- lCcu — Undivided CUMBERLAND GROUP (lCcu) — sandstone, shale, conglomerate
- lCcd — (lCcd) Upper fine facies: red conglomerate, sandstone, siltstone
- lCcc — (lCcc) Upper coarse facies: red conglomerate, sandstone
- lCcb — (lCcb) Lower, fine, coal-bearing facies: grey sandstone, shale, coal
- lCca — (lCca) Lower coarse facies: red conglomerate, shale, sandstone
- lCng — *NEW GLASGOW FORMATION* (lCng) — conglomerate, wacke

RIVERSDALE GROUP

- lCpb, lCbp, lCph — *PARRSBORO* (lCpb), *BOSS POINT* (lCbp) & *PORT HOOD* (lCph) *FORMATIONS* — arenite, siltstone, shale, conglomerate, mudstone
- lCcm, lCmv — *CLAREMONT* (lCcm) & *MILLSVILLE* (lCmv) *FORMATIONS* — conglomerate, sandstone, wacke, siltstone
- lCpq — *POMQUET FORMATION* (lCpq) — wacke, arenite, conglomerate, siltstone, slate

*** CANSO GROUP**

310 / 569

- Cc, Cld, Cw, Cmb, Cl — Undivided CANSO GROUP (Cc); *LONDONDERRY* (Cld), *WEST BAY* (Cw), *MIDDLEBOROUGH* (Cmb), & *LISMORE* (Cl) *FORMATIONS* — wacke, siltstone, conglomerate, shale

WINDSOR GROUP

314,605,508 / 249,125,483 / 313,254,126 / 340

- Undivided WINDSOR GROUP (εCw)
- εCwc — C - E subzone (εCwc): *CHURCHVILLE FORMATION* — sandstone, shale, mudstone, limestone
- εCwb — B subzone (εCwb): *FORBES LAKE FORMATION* — shale, mudstone, gypsum, sandstone, conglomerate
- εCwa — A subzone (εCwa): *BRIDGEVILLE & HOLMES BROOK FORMATIONS* — gypsum, anhydrite, limestone, dolostone, halite

HORTON GROUP

425

- εCh — Undivided HORTON GROUP (εCh) — wacke, siltstone, arenite, mudstone, shale
- εCwb — *WILKIE BROOK FORMATION* (εCwb) — sandstone, siltstone, conglomerate, shale, limestone

- DC, DCg, DCr, DCn — Undifferentiated DEVONO-CARBONIFEROUS (DC) — conglomerate, wacke in NE: slate, argillite, siltstone, quartzite, conglomerate in SE; *GREVILLE RIVER FORMATION* (DCg) — wacke, siltstone, arenite; *RAPID BROOK FORMATION* (DCr) — wacke, conglomerate, siltstone; *NUTTBY FORMATION* (DCn) — siltstone, arenite, conglomerate
- lDf — *FALLS FORMATION* (lDf) — red conglomerate, wacke, siltstone

FOUNTAIN LAKE GROUP (mDfl)

- mDd — *DIAMOND BROOK FORMATION* (mDd) — basalt, siltstone, wacke
- mDb — *BYERS BROOK FORMATION* (mDb) — rhyolitic & dacitic flows & tuffs, siltstone, wacke
- mDm — *McARAS BROOK FORMATION* (mDm) — conglomerate, arkose, shale, basalt
- ?Dc — (?Dc) Unnamed unit: conglomerate, mudstone, siltstone, sandstone
- ?Dv — (?Dv) Unnamed unit: basalt, rhyolite, tuff, sandstone, siltstone
- mDmb — *MURPHY BROOK FORMATION* (mDmb) — siltstone, conglomerate, wacke
- εDp, εDk — *PORTAPIQUE RIVER* (εDp) & *KNOYDART* (εDk) *FORMATIONS* — siltstone, sandstone, mudstone, wacke, conglomerate
- SD — Undifferentiated SILURO-DEVONIAN rocks (SD) including siltstone, wacke, conglomerate, arenite

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- Sw, Se — *WILSON BROOK* (Sw) & *EARLTOWN* (Se) *FORMATIONS* — siltstone, shale, wacke, rhyolite (V), basalt, felsic tuff
- Sg/k — *KERROWGARE & GLENCOE BROOK FORMATIONS* (Sg/k) — shale, slate, mudstone, sandstone
- Sa — **ARISAIG GROUP (Sa):** *STONEHOUSE, MOYDART, McADAM BROOK, FRENCH RIVER, ROSS BROOK & BEECHHILL COVE FORMATIONS* — siltstone, shale, limestone, mudstone, conglomerate
- OSb, OSm/d — *BEAR BROOK* (OSb), *McGILLIVRAY BROOK & DUNN POINT* (OSm/d) *FORMATIONS* — basalt, rhyolite, ignimbrite, felsic tuff, red laterite, conglomerate, sandstone
- OSs — *SUNNYBRAE FORMATION* (OSs) — slate, shale, felsic tuff
- €k — *KEPPOCH FORMATION* (€k) — rhyolite, felsic tuff

IRON BROOK & McDONALDS BROOK GROUPS

- E/M€i — IRON BROOK GROUP (E/M€i): *FERRONA, LITTLE HOLLOW & BLACK JOHN FORMATIONS* — iron formation, quartzite, felsic & mafic tuff, slate, siltstone, limestone, red sandstone & conglomerate
- E/M€m — McDONALDS BROOK GROUP (E/M€m): *ARBUCKLE BROOK & MALIGNANT COVE FORMATIONS* — basalt, rhyolite, felsic & mafic tuff, red slate, siltstone, sandstone, conglomerate
- H-€ — Undifferentiated HADRYNIAN-CAMBRIAN (H-€) — mafic & felsic volcanic rocks, wacke, argillite, siltstone, phyllite, quartzite
- Hj, Hw — *JEFFERS* (Hj) & *WARWICK MOUNTAIN* (Hw) *FORMATIONS* — phyllite, felsic tuff, mafic meta-volcanic rocks, agglomerate, wacke, marble, siltstone
- Hgv — **GEORGEVILLE GROUP (Hgv):** *LIVINGSTONE COVE, MORAR BROOK & CHISHOLM BROOK FORMATIONS* — basaltic flows & tuff, marble, mudstone, siltstone, chert, conglomerate

BASS RIVER COMPLEX

- Pgv — *GREAT VILLAGE RIVER GNEISS* (Pgv) — hornblende - plagioclase gneiss
- Pgb — *GAMBLE BROOK SCHIST* (Pgb) — quartzite, quartz-mica schist
- Pf — *FOLLY RIVER SCHIST* (Pf) — chlorite schist, mafic meta-volcanic rocks, quartzite

MOUNT THOM COMPLEX

- Pmt — gneiss, amphibolite, schist, granite gneiss

CAPE BRETON ISLAND

PICTOU & MORIEN GROUPS

132 / 133 / 41 / 509

- lCbc — PICTOU GROUP; *BROAD COVE FORMATION* (lCbc) — red shale, sandstone, conglomerate
- lCi — *INVERNESS FORMATION* (lCi) — grey sandstone, arkose, conglomerate, shale, coal
- lCm — Undivied MORIEN GROUP (lCm) — informal rock units - dashed line
- lCmc — *Ptychocarpus unitus* zone (lCmc) — sandstone, shale, coal, limestone
- lCmb — *Linopteris obliqua* zone (lCmb) — grey sandstone, shale, coal
- lCma — *Lonchopteris* zone (lCma) — grey sandstone, conglomerate, shale, coal

RIVERSDALE GROUP

- lCr — Undivided RIVERSDALE GROUP (lCr) — siltstone, sandstone, shale, coal, limestone
- lCph — *PORT HOOD FORMATION* (lCph) — sandstone, shale, coal

*** CANSO GROUP**

22 / 254 / 310

- Cc, Cma, Cpe, Ccd, Csa — Undivided * CANSO GROUP (Cc); ★ *MABOU* (Cma), *POINT EDWARD* (Cpe), *CAPE DAUPHIN* (Ccd), & *ST. ANNS* (Csa) *FORMATIONS* — mudstone, shale, sandstone, conglomerate, limestone

WINDSOR GROUP

314,125,605,313 / 249,126,2,367 / 483,349,254

- εCw — Red siltstone, mudstone, sandstone, shale, conglomerate, gypsum, anhydrite, halite
- εCg — *GRANTMIRE FORMATION* (εCg) — conglomerate, sandstone, siltstone, shale

HORTON GROUP

425 / 360

- εCh — Undivided HORTON GROUP (εCh)
- εChu — Upper Unit (εChu): red sandstone, siltstone, conglomerate, limestone
- εChm — Middle Unit (εChm): grey sandstone, siltstone, conglomerate, limestone
- εChl — Lower Unit (εChl): red sandstone, conglomerate, siltstone
- εCs/a — *STRATHLORNE-AINSLIE FORMATION* (εCs/a) — Ainslie Member (stippled): siltstone, sandstone, conglomerate; Strathlorne Member: siltstone, sandstone, shale, limestone, conglomerate
- εCcn — *CRAIGNISH FORMATION* (εCcn) — red & grey sandstone, conglomerate, siltstone

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- DC — Undifferentiated DEVONO — CARBONIFEROUS (DC) — conglomerate, sandstone, siltstone, shale
- DCf — *FISSET BROOK FORMATION* (DCf) — mafic & felsic tuff, basalt, siltstone, rhyolite, conglomerate, sandstone
- mDml — *McADAM LAKE FORMATION* (mDml) — conglomerate, arkose, shale, felsic tuff

407 / 44

- m/l€ — Undivided MID — LATE CAMBRIAN (m/l€)
- €Om — *McLEOD BROOK & MacNEIL* (€Om) *MacNEIL FORMATIONS* (l€m) — shale, slate, limestone
- m€mm — *MacMULLIN FORMATION* (m€mm) — grey siltstone, shale
- m€b — **BOURINOT GROUP (m€b)** — *ESKASONI, DUGALD & GREGWA FORMATIONS* — basalt, rhyolite, felsic & mafic tuff, shale, siltstone
- **KELVIN GLEN GROUP:**
- m€v — *VICTORIA BRIDGE FORMATION* (m€v) — shale, siltstone
- m€g — *GILLIS BROOK FORMATION* (m€g) — rhyolite, basalt, siltstone, sandstone, conglomerate
- ε€k — *KELVIN LAKE FORMATION* (ε€k) — red sandstone, siltstone, conglomerate
- m€mb, m€t — *MacLEAN BROOK* (m€mb) & *TROUT BROOK* (m€t) *FORMATIONS* — shale, siltstone
- ε€c/m — *CANOE BROOK & MacCODRUM FORMATIONS* (ε€c/m) — claystone, shale siltstone
- ε€mr — *MORRISON RIVER FORMATION* (ε€mr) — red sandstone, conglomerate, quartzite

FOURCHU GROUP (Hf)

- Hf-- — felsic & mafic tuff, basalt, andesite, rhyolite, slate, quartzite, chlorite schist, meta - wacke; Informal rock units - dashed line
- Unnamed units: (Pv) mafic & felsic meta-volcanic rocks, schist; (Ps) slate, schist; (Pc) meta-conglomerate

GEORGE RIVER GROUP

423 / 50

- Pg, Pgg — Undivided GEORGE RIVER GROUP (Pg)
- (Pgm) includes marble and calc-silicate rocks
- (Pgv) mainly mafic and felsic meta-volcanic rocks
- (Pgs) slate, phyllite, schist, semi-pelitic schist, pelitic gneiss
- (Pgq) mainly quartzite
- (Pgc) mainly meta-conglomerate
- (Pgg) paragneiss & schist
- Undifferentiated gneiss & schist of BASEMENT COMPLEX &/OR GEORGE RIVER GROUP: (Pg) undivided gneiss & schist; (Pmg) mafic gneiss & schist; (Pfg) felsic gneiss & schist

BASEMENT COMPLEX (Pb)

- Pb — gneiss & schist, includes granitoid rocks & amphibolite

PLUTONIC ROCKS

- €gt, DCgt, Dgt — granitoid
- Ca — alaskite porphyry

64,89 / 579,252 / 579,522

- Cg, DCsg, DCg, Dg, DCmg — granite (g); minor porphyry; syeno-granite (sg); monzo-granite (mg)
- DCqm — quartz monzonite

522,542

SOUTH MOUNTAIN BATHOLITH

- DCgd, Cgd, Dgd — granodiorite

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- DCt — tonalite (t)
- DCtr — trondjhemite (tr)
- DCd, Dd — diorite; dioritoid

Plutonic rocks of unknown age are left without ornamentation and age letter.

- €a, Ha — alaskite
- 64 — €gt, H€gt, Hgt — granitoid
- €g, H€g, Hg — granite; rhyolite (V V V)
- Hs — syenite
- €qm — quartz monzonite
- €gd, Hgd, H€gd — granodiorite
- Hd — diorite; dioritoid
- Han — anorthosite
- 79 — H€gb, Hgb — gabbro; gabbroid
- Pu — ultramafic

Diabase dyke — Age, if known, indicated
Geological boundary
Fault
Normal fault, downthrow indicated
Wrench fault
Reverse or thrust fault

Geological map was compiled from published and unpublished maps of the Geological Survey of Canada, Nova Scotia Department of Mines & Energy and exploration companies.
Unpublished maps were also provided by R. G. Moore (Windsor area), D. B. Clarke and his students (South Mountain Batholith) and W. S. Shaw (Cumberland Basin).
Topographical base is from Canadian Department of Energy, Mines & Resources, Surveys and Mapping Branch, Map MCR37, Scale 1:500,000.
Epochs are based upon European ages.
Cambrian Period includes the Tremadocian Age.
Sandstone terms include: arkose (feldspar-rich); wacke (matrix-rich) and arenite (matrix-poor).
Floral zone boundaries within the Morien Group coincide with rock unit boundaries.
Plutonic rock nomenclature follows I. U. G. S. plutonic rock terminology (A Streckeisen, 1976, Earth Science Reviews, V-12, P. 1-33).
*CANSO GROUP probably of formation status only.

★ *MABOU FORMATION* elevated to group status by E. S. Belt 1964, Amer. J. Sci., v. 262, p. 653 - 673

Subsurface data for the Carboniferous rocks in the cross-section is modified from R.D. Howie (in press), Compte Rendu, 9th International Carboniferous Congress.

Preliminary drafting by Nova Scotia Department of Mines & Energy
Cartography by Maritime Resource Management Service
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IMPORTANT NOTE

This stratigraphic legend accompanies **open file map (OFM) 85-01.** Theses restricted to one stratigraphic group (eg. Windsor Group), but consisting of multiple study areas, are plotted on this stratigraphic legend.