



Geology Legend

(Note: legend common to all four map sheets, items may or may not be located on an individual map sheet.)

STRATIFIED ROCKS

LATE CARBONIFEROUS

- CLMERS AND GROUP**
 - LCc: undivided, red sandstone and siltstone, 50 m
 - LCcp: POLLY BROOK FORMATION (LCcp): red conglomerate and sandstone, 20 m

EARLY CARBONIFEROUS

- HORTON GROUP and equivalents**
 - ECr: FALLS FORMATION (ECr): red-brown conglomerate and coarse sandstone, <1 km
 - DECh: HUTBY FORMATION (DECh): undivided, grey sandstone, siltstone and argillite, minor conglomerate, locally black, purple or green siltstone and argillite, <1 km
 - DEChc: fine facies, principally argillite, siltstone and fine sandstone
 - DEChd: coarse facies, principally conglomerate and medium coarse sandstone

DEVONIAN - CARBONIFEROUS

- FOUNTAIN LAKE GROUP** (undivided in western Cobequid Highlands)
 - DCr: undivided, basalt, pink and green mylonite, minor red and grey conglomerate, sandstone and siltstone, <800 m
 - DCr1: principally mylonite
 - DCr2: undivided, principally basalt
- DIAMOND BROOK FORMATION** (eastern Cobequid Highlands)
 - DCr3: conglomerate and basalt
 - DCr4: conglomerate, sandstone and argillite, minor mylonite, tuff, medium and fine sandstone, red and minor grey siltstone and shale, minor conglomerate, red and white pebbles, conglomerate, minor coarse and medium, red and brown sandstone
 - DCr5: basalt facies, basalt flows, locally vesicular, minor red siltstone and grey sandstone
 - DCr6: mylonite facies, grey or pink, flow banded mylonite, minor tuff and volcanoclastic sandstone
- BYERS BROOK FORMATION** (eastern Cobequid Highlands) (DCr6): grey and pink, mylonite tuff with minor conglomerate, mylonite and basalt flows, and volcanoclastic sandstone, 1.4 km

(?) MIDDLE DEVONIAN

- MURPHY BROOK FORMATION** (DEm): mylonite-clast conglomerate, sandstone, siltstone and black argillite (possibly part of Horton Group), 300 m

SILURIAN - EARLY DEVONIAN

- PORTAPOPE RIVER FORMATION** (EDp): red and green siltstone and fine sandstone, 1 km
- WILSON BROOK FORMATION** (SW): grey, fine sandstone and siltstone, 1.5 km

NEOPROTEROZOIC

- JEFFERS BLOCK** (western and northeastern Cobequid Highlands)
 - 3J: undivided, andesite, diorite and mylonite flows and tuff, lithic argillite, siltstone and argillite
 - 3Ja: grey, lithic argillite and argillite, minor mylonite tuff, <200 m
 - 3Jb: argillite and diorite flows and minor tuff, mylonite flows, tuff and agglomerate, >200 m
 - 3Jm: andesite, diorite and diorite flows and tuff, siltstone and argillite, >200 m
- BASS RIVER BLOCK** (southeastern Cobequid Highlands)
 - 3Br: mylonite, siltstone, argillite and siltstone, commonly deformed to chloritic schists, >100 m
- FOLLY RIVER FORMATION** (tectonic schists in Bass River Block, in southeastern Cobequid Highlands) (3Fr): basalt, tuff, chert and silty turbidites, commonly deformed to chloritic schists, >100 m
- GAMBLE BROOK FORMATION** (K3g): fine grained orthoquartzites and psammite schists, >500 m

PLUTONIC ROCKS

EARLY CARBONIFEROUS

- DCg: gabbro/diorite with <5% granite dikes and pods, gabbro/diorite is texturally uniform, fine- to medium-grained, and includes augite gabbro and hornblende diorite. Granite is pink, orange or grey, small felsic granite
- ICg: gabbro/diorite with 5-30% granite dikes and pods
- Ch: hybrid granite and mafic intrusive rocks, with mingling textures
- ICp: intrusive mylonite and porphyry

LATE DEVONIAN - EARLY CARBONIFEROUS

- DCg: granite, undivided, principally pink, orange or grey, alkali feldspar granite
- DCg1: (DCg): fine grained granite
- DCg2: (DCg): medium grained granite
- DCg3: (DCg): coarse grained granite
- DCg4: (DCg): intrusive mylonite and porphyry
- DCg5: (DCg): granite, variable occurrence of several different types of granite
- DC6: (DC6): hybrid granite and mafic intrusions
- DC6g: gabbro/diorite with <5% granite dikes and pods, gabbro/diorite is texturally uniform, fine- to medium-grained, and includes augite gabbro and hornblende diorite. Granite is pink, orange or grey, small felsic granite
- DC6g1: (DC6g): gabbro/diorite with 5-30% granite dikes and pods
- DC6g2: (DC6g): subequal bodies of gabbro/diorite and of granite (on a scale of tens to hundreds of metres)
- DC6g3: (DC6g): gabbro/diorite, tonalite, texturally uniform, with minor biotite and/or hornblende
- DC6g4: (DC6g): gabbro/diorite, texturally uniform, fine- to medium-grained, augite or augite-hornblende gabbro
- DC6g5: (DC6g): mylonite with varied igneous protoliths

NEOPROTEROZOIC

- JEFFERS BLOCK**
 - 3Jg: Gunshot Brook granite (northeastern Cobequid Highlands) (3Jg): with minor mafic rocks, orthopyroxene, medium- to coarse-grained, alkali feldspar granite
 - 3Jp: Jeffers Block granodiorite (western and northeastern Cobequid Highlands) (3Jp): principally coarse grained granodiorite with lesser quartz diorite and tonalite, common mafic enclaves and felsic dikes
 - 3Jm: Jeffers Block gabbro (western and northeastern Cobequid Highlands) (3Jm): porphyritic, fine grained gabbro
- BASS RIVER BLOCK**
 - 3Br: McCann Settlement granite (southeastern Cobequid Highlands) (3Br): medium- to coarse-grained, pink, coarse-grained, alkali feldspar granite
 - 3Br1: Debert River granodiorite (southeastern Cobequid Highlands) (3Br1): medium- to coarse-grained, biotite granodiorite with symmetrical foliation
 - 3Br2: Frog Lake gabbro (southeastern Cobequid Highlands) (3Br2): texturally inhomogeneous hornblende gabbro with tonalite veins
 - 3Br3: Economy River orthogneiss (southeastern Cobequid Highlands) (3Br3): mylonitic hornblende granodiorite

FAULT ZONES with a variety of rock types

- 3Fr: tectonic slices of Neoproterozoic igneous and metamorphic rocks
- Fv: fault zone with subvertical, sheared or cataclastic to mylonitic rocks
- Fh: fault zone with subhorizontal foliated rocks

Geological Symbols

- Geological boundary (defined, approximate)
- Geological boundary (gradational within pluton)
- Limit on geological mapping
- Fault (defined, assumed)
- Trust fault (defined, assumed)
- Bedding (inferred)
- Foliation (inferred)
- Outcrop (rock outcrop, flow)
- Outcrop (from Dunlop and Wallace, 1982)
- Mineral occurrence (NSMDO? commodity?)
- Mineral occurrence (NSMDO? commodity?)
- Diamond-drill hole (NSDDH?)

Credits

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Mineral occurrences derived from the Nova Scotia Department of Natural Resources, Mineral Occurrence Database, 2004.

Diamond-drill holes derived from the Nova Scotia Department of Natural Resources, Driftless Database, 2004.

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Nova Scotia Department of Natural Resources
Mineral Resources Branch
Open File Map ME 2005-117
Bedrock Geology Map of the
**Earltown Area (parts of NTS sheets
11E/06, 11E/10 and 11E/11),**
Cobequid Highlands,
Nova Scotia
G. Pe-Piper and D.J.W. Piper
Scale 1:50 000

References

The following paper provides a comprehensive bibliography and a synopsis of the geology of the Cobequid Highlands:
Pe-Piper, G. and Piper, D.J.W. 2003. A synopsis of the geology of the Cobequid Highlands. Atlantic Geology, v. 38(2), p.145-160.

Selected outcrop locations derived from:
Dunlop, W.J. and Wallace, P.L. 1982. Geological maps of the Cobequid Highlands, Colchester, Cumberland and Pictou counties, Nova Scotia. Nova Scotia Department of Mines and Energy, Maps 1982-4, 1982-7, 1982-8 and 1982-9, scale 1:50 000.

Disclaimer

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Recommended Citation

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Legend

- Trans-Canada Highway
- Atlantic Trunk Highway
- Trunk Highway
- Collector Highway
- Hand surface
- Loose surface road
- Resource access road
- Vehicle track
- Railway
- Railway abandoned
- Power line (single, multiple)
- County line
- Contour 20 m
- Contour 100 m (index)
- Hydrographic feature
- Rock in water

Only selected outcrops are shown on the map. Information on all outcrops is provided in a Fieldlog database, available from Nova Scotia Department of Natural Resources.

Nova Scotia Mineral Occurrence Database (NSMDO) selected entries:
Commodity: Ag Silver Cu Copper Pb Lead
As Arsenic F Fluorine Th Thorium
Au Gold Fe Iron U Uranium
Ba Barite Mn Manganese Zn Zinc
Ni Nickel

Districts and aggregate mineral occurrences are not shown. Not all reported mineral occurrences were confirmed by field investigation.

Nova Scotia Diamond-drill Hole Database (NSDDH) selected entries.

Open File Map ME 2005-117
Earltown
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