



**LEGEND**

<b>Carboniferous</b>	<b>C</b> undifferentiated Carboniferous rocks	<b>Cambrian-Hadrynian</b>	<b>HClg</b> St. Anns leucogranite: medium- to coarse-grained pink granite with less than 5% mafic phases (614 +/- 17 Ma, Rb-Sr, Comrie, 1993)
<b>Westphalian</b>	<b>Mabou Group</b>	<b>Hit</b> Ingouish River tonalite: medium- to coarse-grained tonalite with amphibole phenocrysts (555 +/- 2 Ma, U-Pb zircon, Dunning et al., 1990)	<b>Hkd</b> Kathy Road diorite: medium-grained amphibole-rich diorite, variably foliated to gneissic (860 +/- 2 Ma, U-Pb zircon, Dunning et al., 1990)
<b>Visean</b>	<b>Windsor Group</b>	<b>Higd</b> Indian Brook granodiorite: medium-grained granodiorite to granite containing hornblende and biotite (564 +/- 5 Ma, U-Pb titanite, Dunning et al., 1990)	<b>Hd</b> Variably foliated to schistose chloritized and epidotized diorite
<b>CWu</b> Upper Windsor: anhydrite, gypsum, red and grey siltstone, with thin beds of fossiliferous grey limestones	<b>CWi</b> Lower Windsor: anhydrite, gypsum, minor dolomitized biohermal limestone, siltstone and shale	<b>Hg</b> Massive and foliated, locally mylonitic, medium-grained pink granite	<b>Hgd</b> Medium-grained foliated granodiorite, locally garnet bearing
<b>CWm</b> Maccumber Formation: laminated intraclastic peloidal and micritic grey limestone, locally oolitic	<b>CHA</b> Anisle Formation: mostly fluvialite cross-bedded sandstone and conglomerate, siltstone	<b>Hgs</b> Medium- to fine-grained schistose granodiorite, gneissic granodiorite gradational to diorite and lined amphibole, strongly foliated and sheared rocks include biotite-garnet schist and amphibole-feldspar-quartz gneiss.	<b>Hgp</b> Porphyritic to weakly porphyritic granite and granodiorite
<b>CHs</b> Strathmore Formation: grey and red siltstone, sandstone, micritic limestone, conglomerate with carbonate clasts	<b>DCH</b> Craigleigh Formation: dominantly conglomerate with red and grey sandstone, thick and thin bedded, alluvial fan facies	<b>HDgdf</b> Fine grained variably foliated to schistose granodiorite	<b>HDgn</b> Barachois River gneissic complex: medium-grained orthogneiss and augen gneiss derived from granodiorite, sheared mylonitic gneiss, and minor migmatite
<b>DCBc</b> Fisset Brook Formation, basalt member: vesicular porphyritic basalt and andesite, with minor interbedded red siltstone and conglomerate	<b>DCMg</b> Margaree pluton, coarse porphyritic rapakivi granite (343 +/- 17 Ma, Rb-Sr, O'Beirne-Ryan et al., 1986)	<b>Hqm</b> Medium-grained to porphyritic quartz monzonite containing biotite and amphibole	<b>HD2mg</b> Medium-grained two mica biotite-muscovite granite
<b>Devonian</b>	<b>Dbx</b> Cataclasis, breccia, and microbreccia	<b>HDg</b> Medium-grained variably foliated granite of uncertain age	<b>Proterozoic</b>
<b>Dmy</b> Mylonite, strongly lined muscovite-chlorite schist, mylonitic gneiss, subordinate cataclasis	<b>Dg</b> granite to syenogranite, pink equigranular to slightly porphyritic with quartz phenocrysts, biotite-bearing (coronites with Salmeter, Foul Pluton dated at 385 Ma, U-Pb zircon, Jamieson et al., 1986)	<b>HPv</b> Price Point Formation: mostly sub-volcanic diorite and andesite, some tuff and flow	<b>Hkgn</b> Kally Mountains gneiss: gneissic to schistose granodiorite, diorite, and amphibolite
<b>Dng</b> West Branch North River Pluton: composite pluton of medium- to coarse-grained, light grey, porphyritic biotite-hornblende granodiorite, and medium- to coarse-grained pink granite, (399 +/- 5 Ma, Rb-Sr, O'Beirne-Ryan and Jamieson, 1986)	<b>SDg</b> Medium-grained equigranular granite, biotite monzonite, locally foliated and weakly chloritized	<b>HNBt</b> North Branch Baddeck River leucotonalite: medium- to coarse-grained tonalite, variably foliated to weakly gneissic with biotite (614 +/- 38/4 Ma, U-Pb zircon, Jamieson et al., 1986)	<b>Osge River Group</b>
<b>SDPbg</b> Pleasant Bay - Belle Cote gneissic complex: amphibolite-grade gneiss and granodioritic orthogneiss containing garnet and kyanite, also includes amphibolite, schistose gneiss, and pegmatite dykes (gneiss dated at 423 +/- 20/1.0 Ma, U-Pb zircon, Jamieson et al., 1986, and 411 +/- 2 Ma, U-Pb monazite, Barr and Jamieson, 1993)	<b>Si</b>	<b>Pq</b> Pure white fine- to coarse-grained quartzite, locally with paleo interbeds of muscovite schist	<b>Pw</b> Medium- to high-grade metasedimentary rocks with lesser volcanic members: includes biotite metawacke, biotite-garnet schist, biotite-garnet-sillimanite schist, impure quartzite, marble, chloritic schist and amphibolite
<b>STBg</b> Medium- to coarse-grained, pink, weakly to strongly foliated granite and augen granite (419 +/- 17 Ma, Rb-Sr, Gaudette et al., 1985)	<b>OSv</b> Schistose chloritic volcanic rocks, metabasalt and mylonitic diorite	<b>PSMR</b> Middle River metamorphic suite: amphibolite, kyanite, schist, gneiss pegmatite, and minor marble	<b>Siurian-Devonian metamorphism</b>
<b>OSc</b> Schistose quartz-pebble wacke, siltstone, polymictic meta-conglomerate and meta-sandstone	<b>OSd</b> Chlorite schist, metavolcanic rocks	<b>Cabot Nappe</b>	<b>Upper greenschist to amphibolite grade metamorphism</b>
<b>OSt</b> Sarah Brook Formation: rhyolite, felsic to intermediate tuff, basalt and andesite, minor interbedded red siltstone and shale (433 +/- 7/4 Ma, U-Pb zircon in rhyolite, Dunning et al., 1990)		<b>Amphibolite to upper amphibolite grade metamorphism</b>	
<b>uncertain age</b>			

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OTTAWA  
1996

**Rock outcrops mapped by the authors** x

**Rock outcrops mapped by Horne (1992)** Δ

**Bedding: tops unknown, tops known, overturned** ———— / ————

**Gneissic fabric:**

**Foliation: generation unknown, 1st generation, 2nd generation** ———— / ————

**Gauge plane or striated fracture** ———— / ————

**Shear zone or mylonite: sense unknown, sinistral, normal** ———— / ————

**L-fabric, lineation** ———— / ————

**Intersection lineation** ———— / ————

**Fold axis** ———— / ————

**S fold** ———— / ————

**Axial plane: generation unknown, 2nd generation** ———— / ————

**Joint** ———— / ————

**Dyke, includes granitic and fine grained mafic dykes** ———— / ————

**Quartz vein** ———— / ————

**Slickenside** ———— / ————

**Mineral Occurrence (Postford and Lytle, 1984):**  
Au, Co, Cu, Cr, Fe, Hg, Mn, Mo, Ni, Pb, Se, Zn, U, V, W, Zn

**Geological boundary (defined, approximate, assumed)** ———— / ————

**Shear fault (defined, approximate, assumed)** ———— / ————

**Detachment fault (defined, approximate, assumed)** ———— / ————

**Extensional shear zone (defined, approximate, assumed)** ———— / ————

**Lithic fault (defined, approximate, assumed)** ———— / ————

**Thrust fault (defined, approximate, assumed)** ———— / ————

**Anticlinal axis** ———— / ————

**Synclinal axis** ———— / ————

**References and related maps:**

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Geology by G. Lynch and B. Lafrance 1994; assisted by J. Ortega; additional information compiled from Barr et al. (1987), Barr et al. (1982), Horne (1992), and Dunning et al. (1992).  
Digital cartography by T. Houlihan and C. Deblonde, Geological Survey of Canada  
Electrostatic plot produced by the Geological Survey of Canada  
Any revisions or additional information known to the user would be welcomed by the Geological Survey of Canada  
Digital base map assembled and modified by the Geological Survey of Canada from digital bases controlled by the Canada Centre for Geomatics  
Mean magnetic declination 1995 estimated to be 21°45'W at coordinates 46°15'N and 60°37'30"W

**WORKING MAP**  
**BEDROCK GEOLOGY**  
**ST. ANNS HARBOUR**  
CAPE BRETON ISLAND  
NOVA SCOTIA

Scale 1:50 000 - Echelle 1/50 000

Cooperation Agreement on Mineral Development / Entente de Coopération sur l'Exploitation Minière

Contributor to Canada-Nova Scotia Cooperation Agreement on Mineral Development (1992-1993), a subsidiary agreement under the Economic and Regional Development Agreement.

Contributor à l'Entente de coopération Canada-Nouvelle-Écosse sur l'exploitation minière (1992-1993), entente subsidiaire conclue en vertu de l'Entente Canada-Nouvelle-Écosse de développement économique et régional.

Canada / Province of Nova Scotia

11 K11	11 K10	11 K9
11 K8	11 K7	11 K6
11 K5	11 K4	11 K3
11 K2	11 K1	11 K0

NATIONAL TOPOGRAPHIC SYSTEM REFERENCE

Recommended citation:  
Lynch, G. and Lafrance, B. 1996. Bedrock geology, St. Anns (11K07), Geological Survey of Canada, Open File 3059, Scale 1:50 000.