

LEGEND

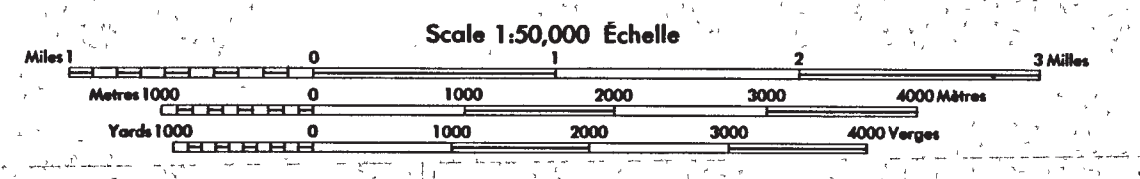
(This legend is common to Open File maps 95-01 (NTS map sheet 14C/8), 95-02 (NTS map sheet 14C/11) and 95-03 (NTS map sheet 14C/14). Some units and locations referred to in the legend may not appear on this map sheet.)

- MESOPROTEROZOIC**
- P2d Fine-grained to very coarse-grained, dark-green to brown-weathering, olivine-bearing gabbroic dykes. Many exhibit a greenschist/facies alteration.
- MESOPROTEROZOIC MAIN PLUTONIC SUITE (NPS)**
- P2dg Granitic pegmatite to aplite dykes, generally white to pale-grey weathering, varying from undeformed to weakly foliated and treated. May include older intrusions.
- P2Mg? Pink aplite to pegmatitic dykes that may be equivalent to the Mavers granite.
- P2Ag, P2G Homblende-bearing and amphibole-bearing, medium- to coarse-grained, red to pink-weathering, granite and associated rocks of the Dog Island area (14C/11), including the Alapal (P2Ag) and Ivksuak (P2G) granites; P2Ag, brown-weathering dioritic and hybrid rocks associated with the Ivksuak granite. Locally strongly foliated at contact with gneisses.
- P2Kg, P2Wg Homblende-bearing granite and quartz monzonite of Karl Oon Islands (P2Kg) and Whale Island (P2Wg) (14C/11). May be part of the Ivksuak granite.
- P2I Ferrodiorite of the West Red Island intrusion (NTS 14C/8,11); contains inclusions of P2An and Ag; P2Ig, granite.
- P2h Hybrid dioritic rocks of the Skull Island - Sandy Island area (NTS 14C/8), comprising tabular to ovoid coarse-grained feldspar and ovoid quartz xenocrysts in a gabbroic matrix, similar to P2Ig. Locally exhibits net-work-type structure indicating incomplete mixing of the granitic and mafic components.
- P2N Newark Island Layered Intrusion (NTS 14C/11): layered, medium to fine-grained troctolite.
- P2an Undivided anorthositic and related rocks, commonly intruded by a network of granitic veins. Includes norite, leuconorite, and leucogabbro; P2mp, porphyritic dioritic marginal gabbroic rocks on Mozanuk and Nuzanukuk Islands (NTS 14C/11). P2m, well-layered and granular-textured mafic rocks adjacent to the Paul Island leuconorite pluton (NTS 14C/8). Dominated by rocks of olivine gabbroic composition; locally display veinlets and segregations of pyroxene and irregular networks and folded sills - dykes of anorthosite and norite. The compositional layering may be folded. These rocks are distinguished from nearby mafic gneisses (Am) in being generally hornblende-poor, but olivine-bearing.
- P2C Club Island intrusion (NTS 14C/11): olivine-bearing(?) melanorite, showing textural indications of recrystallization, and cut by granitic dykes. May not be part of the Main Plutonic Suite because it is intruded by early crystallized mafic dykes.
- P2Jn Leuconorite dyke within the Jonathon intrusion (NTS 14C/14).
- P2J Jonathon intrusion (NTS 14C/11,14): fine-grained leucotroctolite, coarse-grained leucotroctolite and olivine-leuconorite.
- P2Ji Jonathon intrusion (NTS 14C/11,14): well-layered, but variably deformed, granular-textured mafic and ultramafic rocks bordering the western margin of the intrusion. Dominated by rocks of gabbroic, gabbroic, and noritic composition that locally contain olivine-bearing amounts of anorthositic rocks occur within this disrupted layered sequence. This layered succession is characterized by veinlets and segregations of pyroxene. The compositional layering is locally folded and sheared, and on Carey Island (NTS 14C/11) it has a migmatitic appearance. Irregular networks and folded sills - dykes of anorthosite and purple norite are common; the sills are thickest on Jonathon Island (NTS 14C/14), where they also include more tonalitic phases. These rocks are generally devoid of significant amounts of hydrous minerals.
- MAFIC DYKES OF PROBABLE ARCHEAN TO MESOPROTEROZOIC AGE** (Ticks and numbers indicate the dip direction and amount. See additional notes on right margin of map regarding other alphabetical modifiers for the dykes)
- dgn Fine to medium-grained gabbroic (ferrodioritic) dykes; may be related to the ferrodioritic rocks of the Main Plutonic Suite.
- dS Sculpin dykes: olivine-bearing, fine- to coarse-grained gabbroic and gabbroic dykes; some have abundant brown hornblende. Vary from massive to foliated, some have a diffuse layering oblique to their margins, and they locally contain olivine-bearing amounts of anorthositic rocks. Those on Central Island (NTS 14C/11) are broken up by granitic sheets.
- dK Khemertut dykes: hornblende- and phlogopite-rich, locally carbonate-bearing, lamprophyres.
- dA Akkuneq dykes: a multigeneration assemblage of variably recrystallized, massive to foliated amphibolite and mafic granitoid (orthopyroxene-bearing) dykes. This regionally diverse assemblage of rocks may include intrusions of Archean to Mesoproterozoic age, but criteria to correlate specific generations are equivocal.
- PALEOPROTEROZOIC**
- P1mz Satok Island monzonite (NTS 14C/8): buff-weathering, medium-grained olivine + orthopyroxene monzonite. Contains inclusions of recrystallized norite, and is intruded by Khemertut lamprophyre dykes.
- P1m Satok Island gabbro (NTS 14C/8): massive to foliated, layered to gneissose, ilmenite- and apatite-rich olivine gabbro and hornblende ferrodiorite.
- P1g Massive to schistose, pink, grey to rusty-weathering aplite to pegmatoidal granites, locally porphyritic. May include more than one age of rocks. Fluorite, sillite and orthopyroxene are locally present. The Looon Island granite (NTS 14C/11) predates at least some of the deformed mafic dykes.
- ARCHEAN**
- Adg Various aplite to pegmatitic dykes, intrusive into the gneisses but older than the Akkuneq dykes.
- Ag Weakly foliated to diffusely layered and gneissose, grey-weathering, locally porphyritic granitoid rocks, variations are from quartz diorite to leucogranite. Locally contains inclusions of older gneiss. In places, some of the rocks assigned to this subdivision resemble P1g, rocks of central West Island (NTS 14C/11) resemble those of central East Red Island (NTS 14C/11). The mineral assemblage of these rocks are preserved locally; however, rocks assigned to this subdivision in the Nukassutok - Aulatsivik islands area (NTS 14C/8) are of granitoid facies; Agb, schistose granitoid facies granitoid rock containing orthopyroxene- and garnet-bearing diffuse melt veins and irregular pods; similar to Agb.
- A7mo Olivine-bearing meta-igneous rocks of indeterminate affinity. Derived from a well-layered medium- to coarse-grained olivine gabbroic, and locally retains subophitic texture; could be an early member of the Main Plutonic Suite.
- Aum Ultramafic rocks: peridotites occurring in association with some of the mafic gneisses, and as podiform units within the quartzofeldspathic gneisses. Units on Ughordliuk and Aulatsivik Islands (NTS 14C/8) are an assemblage of ultramafic blocks in a groundmass of quartzofeldspathic granitoid and pegmatite.
- Agp Gneisses of metasedimentary origin. Dominantly amphibolite and pelitic gneisses containing garnet and sillimanite, and having a lit-parall network of white granitoid sheets. Garnet and sillimanite are, in many places, replaced by pyroxene hornblende assemblages comprising combinations of cordierite, hypersthene, and spinel; some gneisses also contain regional metamorphic cordierite and hypersthene. Cordierite is present in paragneiss on one of the islets west of Kamulituk Island (NTS 14C/8); Agp, white, grey and rusty quartzite; units on Ughordliuk Island and to the south are largely megacrystic composed of quartzite blocks in a host of grey gneiss and pegmatite.
- Am Black to dark-green-weathering, massive to well-layered, mafic gneisses of diverse origin, probably representing supracrustal and plutonic components. These gneisses are usually characterized by dykes and veins of a migmatizing granitic component, in places reflecting the intrusion of the enclosing quartzofeldspathic gneiss. The mafic gneisses are hornblende-rich rocks that encompass mafic granitoid and amphibolite. Some of the melanocratic rocks on West Red Island (NTS 14C/11) and Nukassutok Island (NTS 14C/8), and a leucocratic member on Paul Island (NTS 14C/8), contain olivine.
- Aq Amphibolite to granite-facies layered quartzofeldspathic gneiss. At outcrop scale, commonly contain parallel mafic gneiss layers derived from pre-deformational mafic dykes and from disrupted metabasaltic plutonic and metatolcanic supracrustal rocks, and lesser paragneiss and ultramafic rocks and rhyolite. The layering in these rocks is locally continuous, having a mylonitic and laminar character, some of which is a consequence of high-grade isoclinal ductile deformation. The following types are distinguished on the map: Aqg, diffusely layered nebulitic and massive granitoid- and retrogressed granite-facies gneiss, probably including granitoid rocks of different age than some retrogressed granite-facies gneiss; Aqmp, pegmatite-rich granitoid-facies gneisses in which the multi-generation granitic pegmatitic component is both parallel to, and highly transgressive to, the layered gneiss; Aqm, mafic gneiss in which the older basic and quartzofeldspathic gneisses are subordinate to the pegmatitic component; Aqb, bubbly gneiss in which garnet + orthopyroxene-bearing mobilize forms irregular and foliation-parallel veins.

OPEN FILE MAP 95-03

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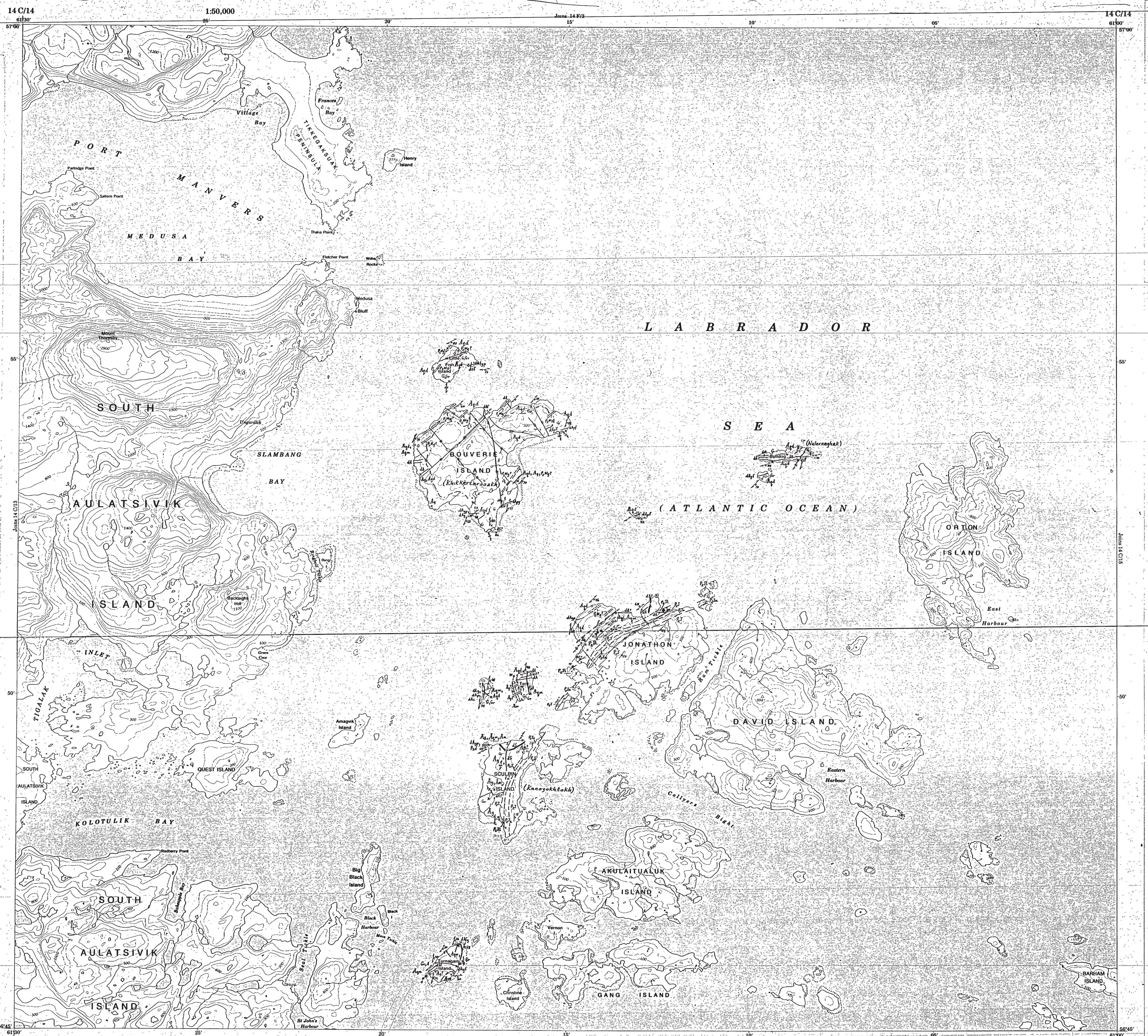
DAVID ISLAND
LABRADOR NORTH DISTRICT
NEWFOUNDLAND



This Provincial Map is prepared in a standard map projection system.
Some names on this map are not yet official.
Copies of this map are available from the Survey and Mapping Branch.
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Supersedes Revision 1992

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KEY

- (This key is common to Open File maps 95-01 (NTS map sheet 14C/8), 95-02 (NTS map sheet 14C/11) and 95-03 (NTS map sheet 14C/14). Some symbols in the key may not appear on this map sheet.)
- Outcrop examined, binocular observation..... x S
 - Geological contact (defined, approximate, assumed)..... /
 - Oreilic layering and associated foliation (inclined, vertical, dip unknown)..... /
 - Mineral foliation in dykes and non-migmatized rocks (inclined, vertical, dip unknown)..... /
 - Foliation axial planar to folds of gneissic layering..... /
 - Broad warps and open folds of the layering, with axial trend..... /
 - Fold plunge..... /
 - Fold asymmetry, viewed normal to plunge..... /
 - Mineral lineation, probably of more than one age..... /
 - Igneous layering in plutons and dykes (inclined)..... /
 - Deformed compositional layering in border zones of the Jonathon Intrusion and Paul Island intrusion (inclined, vertical)..... /
 - Dip of defined contact between gneisses and plutons of the Main Plutonic Suite..... /
 - Quartz and pegmatite segregations in granites of unit P1g..... /
 - Sulphide occurrence or rusty zone..... /
 - Topographic line..... /
 - Ductile shear zone..... /
 - Fault..... /
 - Limit of mapping..... /

NOTES

- The following are the alphabetical designators for Akkuneq, Sculpin and Khemertut dykes. Mineralogical modifiers are based on thin section examination, but some 'granitoid' and 'amphibolite' designators are based on mesoscopic field and hand specimen attributes.
 - f = foliated and/or lineated dykes
 - g = granitoid (orthopyroxene-bearing) dykes
 - a = amphibolite dykes (lack orthopyroxene)
 - c = orthopyroxene + biotite-rich dykes
 - p = feldspar phenocryst/ xenocryst dykes
 - i = layered dykes
 - s = glomerophyritic or 'snowflake-textured' dykes
 - d = dioritic dykes (may be related to the NPS in some cases)
 Where numbers appear next to multiple dykes they indicate the relative age as determined from dyke intersections, f being the oldest.
- Metamorphic indicators for all units, based both on mesoscopic characteristics of the rocks and on thin section examination, are as follows:
 - A = amphibolite facies, may be totally retrogressed granitoid facies
 - G = granitoid facies, with minimal retrogression
 - Q = granitoid facies assemblages showing significant alteration to lower grade minerals (both amphibolite- and greenschist-facies)
 - PH = pyroxene hornblende facies metamorphic overprint as defined by the secondary association in paragneiss of cordierite + hypersthene and cordierite + spinel after garnet and sillimanite respectively.
- Names of geographic features given in parentheses are taken from 'List of Labrador Eskimo Place Names' by E. P. Wheeler, 2nd, (National Museum of Canada, Bulletin 131, 1953). Names already on the base maps are augmented with new names only where there is a significant difference between the NTS name and Wheeler's designation.
- Information on this map is based on data collected by B. Ryan in August, 1991.
- Only the coastline of Bouvierie Island has been examined.
- The outline and subdivisions of the Jonathon intrusion are taken from Berg and Briegel (1983), with minor modifications.

REFERENCE

Berg, J.H. and Briegel, J.S.
1983. Geology of the Jonathon intrusion and associated rocks. In The Main Anorthositic Project, Labrador: Field Report, 1981. Edited by S.A. Morse. Department of Geology and Geography, Contribution No. 46, pages 43-50.

Suggested citation:
Ryan, B., 1995. Geology of the Archean rocks of the David Island map-sheet, NTS 14C/14. Geological Survey, Newfoundland Department of Natural Resources, Open File Map 95-03. Scale 1:50,000. (GS 014C/14/0000)

