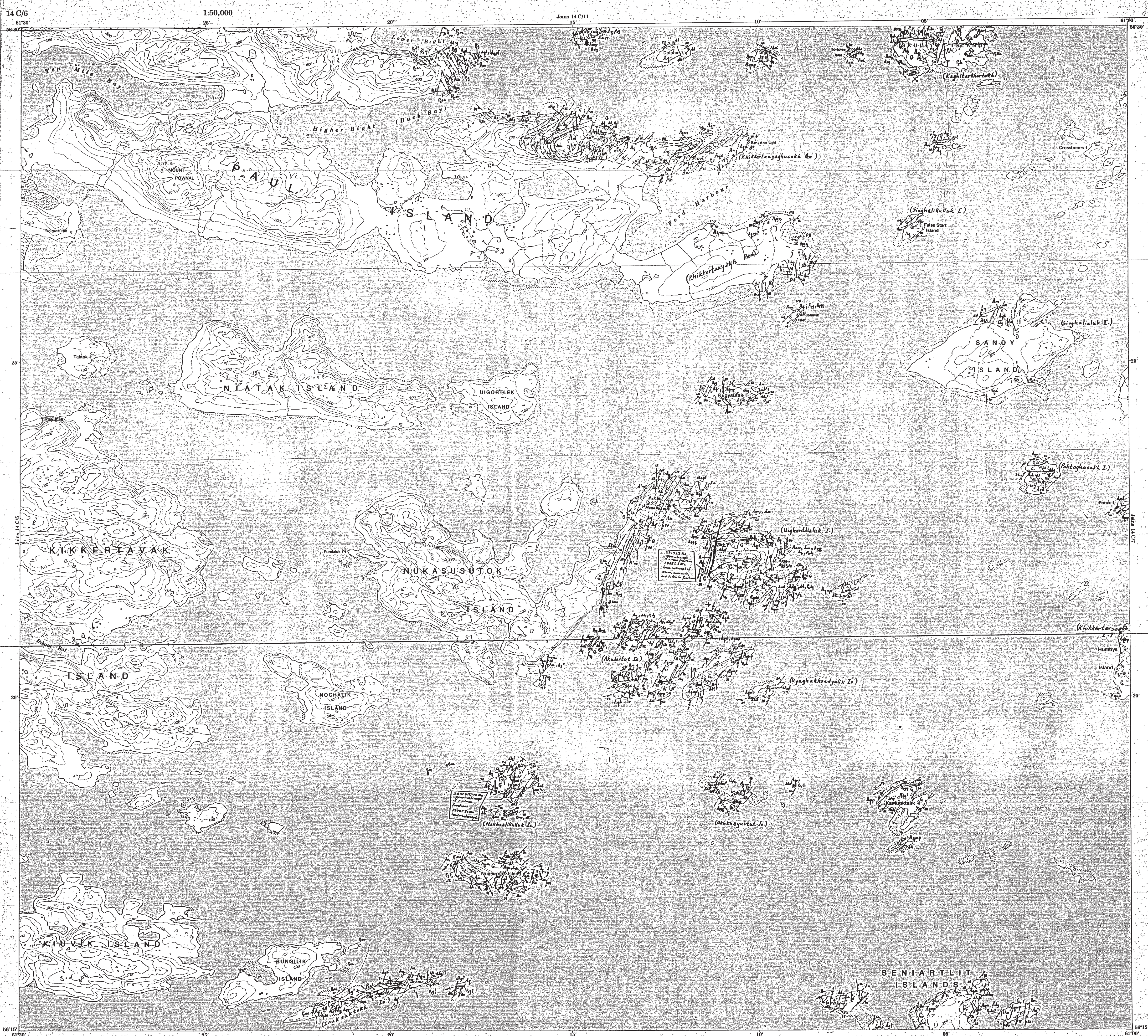


GOVERNMENT OF  
NEWFOUNDLAND AND LABRADOR  
Department of Natural Resources  
Geological Survey

**LEGEND**

(This legend is common to Open File maps 95-01 (NTS map sheet 14C/6), 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**
- NAIN PLUTONIC SUITE (NPS)**
- P2dg Granitic pegmatite to apatite dykes, generally white to pale-grey weathering, varying from undeformed to weakly foliated and lined. May include older intrusions.
- P2Mg7 Pink apatite to pegmatite dykes that may be equivalent to the Mavor's granite.
- P2Mg Hornblende-bearing and feldspar-bearing, medium to coarse-grained, red to pink-weathering, granite and associated rocks of the Dog Island area (14C/11), including the Akkuaq (P2Mg) and Ivksuak (P2Mg) granites; P2Mg, brown-weathering dioritic and hybrid rocks associated with the Ivksuak granite. Locally strongly foliated at contact with gneisses.
- P2Kq, P2Wg Hornblende-bearing granite and quartz monzonite of Karl Oom Islands (P2Kq) and Whale Island (P2Wg) (14C/11). May be part of the Ivksuak granite.
- P2f Ferrodiorite of the West Red Island Intrusion (NTS 14C/6); contains inclusions of P2an and Aq, P2Mg, granite.
- P2h Hybrid dioritic rocks of the Skull Island - Sandy Island area (NTS 14C/8), comprising tabular to ovoid potassium feldspar and ovoid quartz xenocrysts in a gabbroic matrix, similar to P2dg. Locally exhibits net-vein 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; P2anp, porphyritic dioritic marginal gabbroic rocks on Noxunukuk and Noxunukuk Islands (NTS 14C/11); P2an, well-layered and granular-textured mafic rocks adjacent to the Paul Island leuconorite pluton (NTS 14C/6). Dominated by rocks of olivine gabbroic composition; locally display veins 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 Nain Plutonic Suite because it is intruded by partly recrystallized mafic dykes.
- P2jn Leuconorite dyke within the Jonathon intrusion (NTS 14C/14).
- P2j Jonathon intrusion (NTS 14C/11): fine-grained leucocrystalline, coarse-grained leucocrystalline and olivine-leuconorite.
- P2li Jonathon intrusion (NTS 14C/11): 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; lesser amounts of anorthositic rocks occur within this disrupted layered sequence. This layered succession is characterized by veins and segregations of pyroxene. The compositional layering is locally folded and sheared, and on Carney 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 Nain 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 exhibit variable effects of metamorphic recrystallization. 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 Akkuaq dykes: a multigeneration assemblage of variably recrystallized, massive to foliated amphibolite and mafic granulite (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/6): buff-weathering, medium-grained, olivine + clinopyroxene + orthopyroxene + quartz monzonite of recrystallized norite, and is intruded by Khemertut lamprophyre dykes.
- P1m Satok Island gabbro (NTS 14C/6): massive to foliated, layered to gneissose, lime- and apatite-rich olivine gabbro and hornblende ferrodiorite.
- P1g Massive to schistose, pink, grey to rusty weathering apatite to pegmatoidal granites, locally porphyritic. May include more than one age of rocks. Flattish, tabular and orthopyroxene are locally present. The Looe Island granite (NTS 14C/11) predates at least some of the deformed mafic dykes.
- ARCHEAN**
- Adg Various apatite to pegmatite dykes, intrusive into the gneisses but older than the Akkuaq dykes.
- Ag Weakly foliated to diffusely layered and gneissose, grey-weathering, locally porphyritic granulite rocks, including mafic-scale dykes and sheets that may not be related to the larger units. Compositional variations are from quartz diorite to leucogabbro. Locally contains inclusions of older gneiss. In places, some of the rocks assigned to this subdivision resemble P1g (e.g., rocks of central West Island (NTS 14C/11) resemble those of central East Red Island (NTS 14C/11)). The mineral assemblage of these rocks in the northern part of the area is largely that of amphibolite facies, although remnants of orthopyroxene are preserved locally; however, rocks assigned to this subdivision on the Nukusutok - Akuliat Islands area (NTS 14C/6) are of granulite facies; Agb, schlieric granulite facies granulite rock containing orthopyroxene and garnet-bearing, diffuse melt veins and irregular rocks, similar to Agb.
- Amo 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 Nain 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 Ughodlakuk and Akuliat Islands (NTS 14C/6) are an assemblage of ultramafic blocks in a groundmass of quartzofeldspathic granulite and pegmatite.
- Agp Gneisses of metasedimentary origin. Dominantly semipelite and pelitic gneisses containing garnet and sillimanite, and having a ill-par-lit 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 paragneisses on one of the islands west of Kamulitukuk Island (NTS 14C/6); Agpp, which, grey and rusty quartzite, units on Ughodlakuk 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 granulite and amphibolite. Some of the melanocratic rocks on West Red Island (NTS 14C/11) and Nukusutok Island (NTS 14C/6), and a leucocratic member on Paul Island (NTS 14C/6), contain olivine.
- Aq Amphibolite to granulite 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 metvolcanic supracrustal rocks, and lesser paragneiss and ultramafic lenses and rafts. The layering in these rocks is locally continuous, having a mylonitic and laminar character; some of which is a consequence of high-grade isoclinal deformation. The following types are distinguished on the map: Aqg, diffusely layered neoblastic and massive granulite- and retrogressed granulite facies gneisses, probably including granulite rocks of different age than some of the migmatitic rocks; Aqm, grey to brown-weathering, migmatitic gneiss, at amphibolite and retrogressed granulite facies; Aqp, pegmatite-rich granulite facies gneisses in which the multi-generation granitic pegmatitic component is both parallel to, and highly transgressive to, the layering; includes agmatitic rocks in which the older basic and quartzofeldspathic gneisses are subordinate to the pegmatite component; Aqb, babbly gneiss in which garnet + orthopyroxene-bearing mobilize forms irregular and foliation-parallel veins.



**KEY**

(This key is common to Open File maps 95-01 (NTS map sheet 14C/6), 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.	1/2
Geological contact (defined, approximate, assumed).	1/1
Gneissic layering and associated foliation (inclined, vertical, dip unknown).	1/1/1
Mineral foliation in dykes and non-migmatized rocks (inclined, vertical, dip unknown).	1/1/1
Foliation axial planar to folds of gneissic layering.	1/1/1
Broad warps and open folds of the layering, with axial trend.	1/1/1
Fold plunge.	1/1/1
Fold asymmetry, viewed normal to plunge.	1/1/1
Mineral lineation, probably of more than one age.	1/1/1
Igneous layering in plutons and dykes (inclined).	1/1/1
Deformed compositional layering in border zones of the Jonathon Intrusion and Paul Island intrusion (inclined, vertical).	1/1/1
Dip of defined contact between gneisses and plutons of the Nain Plutonic Suite.	1/1/1
Quartz and pegmatite segregations in granites of unit P1g.	1/1/1
Sulphide occurrence or rusty zone.	1/1/1
Topographic linear.	1/1/1
Ductile shear zone.	1/1/1
Fault.	1/1/1
Limit of mapping.	1/1/1

- NOTES**
- The following are the alphabetical designators for Akkuaq, Sculpin and Khemertut dykes. Mineralogical modifiers are based on thin section examination, but some 'granulite' and 'amphibolite' designators are based on mesoscopic field and hand specimen attributes.
    - f = foliated and/or lineated dykes
    - g = granulite (orthopyroxene-bearing) dykes
    - a = amphibolite dykes (rock orthopyroxene)
    - c = clinopyroxene + biotite-rich dykes
    - l = felsic gneiss/orthopyroxene dykes
    - l = layered dykes
    - s = glomeroporphyritic 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, 1 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 granulite facies
    - G = granulite facies, with minimal retrogression
    - R = granulite facies assemblages showing significant alteration to lower grade minerals (both amphibolite and greenschist facies)
    - PH = pyroxene hornblende contact 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 17), 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 of 1990 and 1991.
  - The distribution of rocks of the Nain Plutonic Suite on the eastern half of Skull Island is taken from the manuscript maps of E. P. Wheeler, on file with the Geological Survey, Newfoundland Department of Natural Resources.
  - Many of the mafic dykes on the Akuliat Islands have been omitted in order to reduce symbol and unit designator crowding.
  - Geochronological data presented on the map are from several sources. Some data are from unpublished reports by Connelly (1992, 1993, 1994) on file with the Geological Survey; some are from personal communication with J. C. Connelly, and some are from published reports by Connelly and Ryan (1993, 1994).

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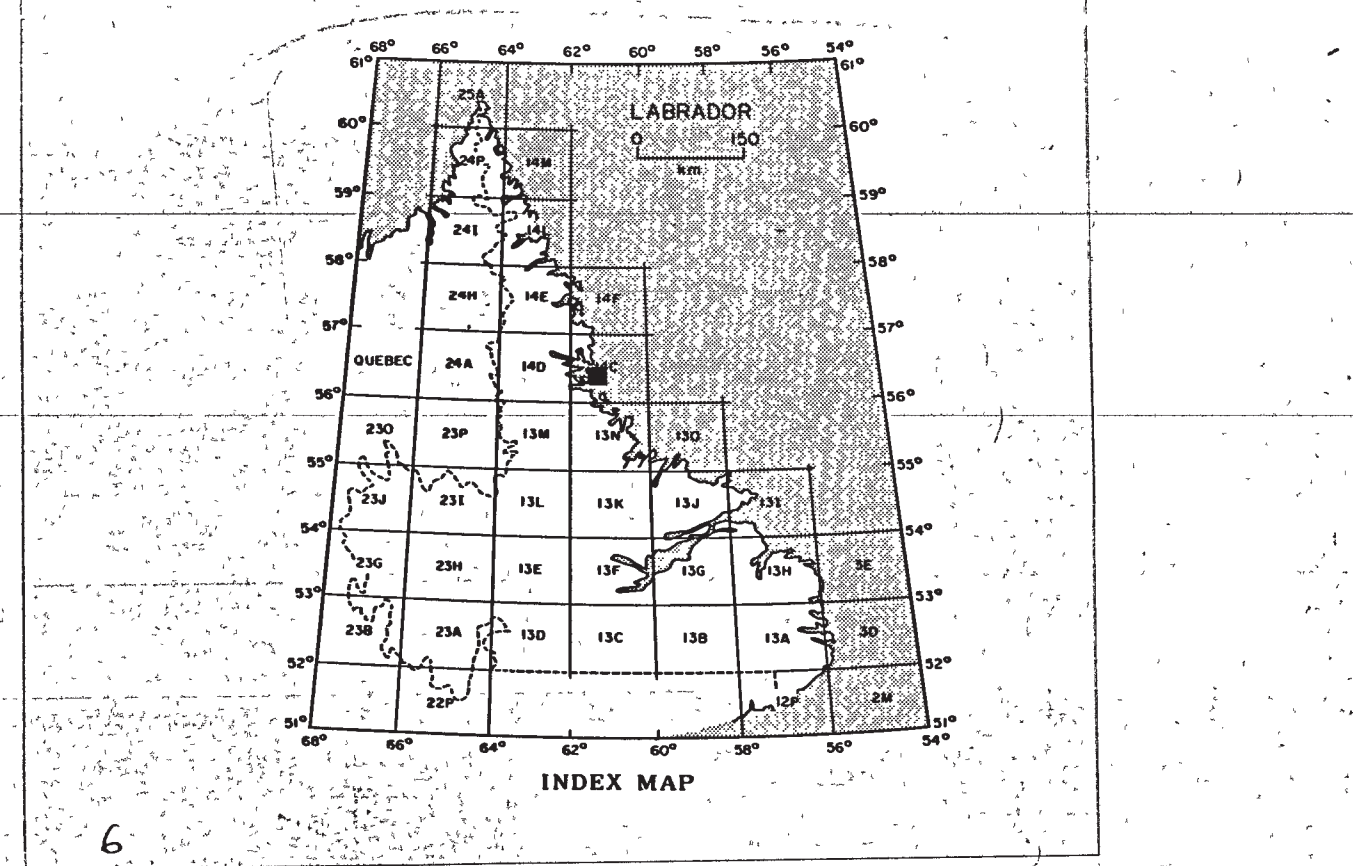
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INDEX MAP

**OPEN FILE MAP 95-01**

Produced by the SURVEYS AND MAPPING BRANCH  
Department of Natural Resources  
1995  
This map is based on information taken from map sheet NTS 14C/8. Some symbols in the key may not appear on this map sheet.

**FORD HARBOUR**  
LABRADOR NORTH DISTRICT  
NEWFOUNDLAND

Scale 1:50,000 Echelle

0 1000 2000 3000 4000 Metres  
0 1000 2000 3000 4000 Yards

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Some names on this map are not official. Corrections to this map should be sent to the Survey and Mapping Branch.

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