

11 D/12 & 11 D/05 North Half

Department of Mines and Energy

Energy, Mines and Energie, Mines et Resources Canada Ressources Canada

Geological Survey of Canada

Commission géologique du Canada

Mineral Development Agreement

Canada — Nova Scotia

MAP 87-6

GEOLOGICAL MAP

HALIFAX AND SAMBRO

(N.T.S. SHEETS 11 D/12 and 11 D/05)

NOVA SCOTIA

M.A. MACDONALD and R.J. HORNE

NOVA SCOTIA DEPARTMENT OF MINES AND ENERGY

HALIFAX, NOVA SCOTIA

cordierite (<1.5cm) are diagnostic.

along Highway #103 west of Tantallon.

well exposed on the shoreline.

dominant joint set (140/90).

ple contained minor scheelite.

pyrite-bearing quartz veins cut DCmgSL.

was prospected for gold has been reported.

parallel the granite/metasediment contacts.

DCImTp is a medium grey porphyry with phenocrysts of quartz,

DCImTe is a light buff-orange, medium grained equigranular

Xenoliths of DCmgSL in granitoids of the DClmT are exposed

Episyenitic rocks are restricted to a narrow dyke? (2m wide)

As stated above, granitic rocks are massive and non-foliated,

Endocontact phenomena such as the sheeted aplite and aplite/

The orientation of joints, dykes, quartz veins and greisens all have a very strong northwest component throughout the map sheet. This feature can be seen in all map units; however, it is best displayed

Foliation as defined by the parallel alignment of alkali feldspar megacrysts is not a pervasive feature in the granitoids of the Halifax

presumably post-dating the Acadian deformational event. Localized

shear zones and faults are indicative of brittle shear. One major fault, the

Herring Cove Fault, extends from Fraser Lake (Timberlea area) to

pegmatite dykes in DCmgSL and DCgda and the sheeted quartz-greisen

system near Sandwich Point often have orientations that parallel or sub-

in the finer grained rocks such as in the western lobe of the main DCImT

Peninsula. However, it may be observed in virtually all megacrystic units.

Mineral Occurrences

1/ At Sandwich Point coarse disseminations of arsenopyrite, pyrite and

rarely chalcopyrite occur in a sheeted quartz-muscovite greisen vein

system. The greisen system outcrops over a strike length of approximately 500 m along the shoreline and represents approximately 300 m

of strike width. Veins have two dominant orientations (185/63W and

175/70W) and vary in width from <5-50cm. A grab sample from an

2/ Approximately 1 km north of Sambro Basin, three parallel quartz

greisen veins approximately 0.5-1.5 cm wide cross-cut the DCmgHF. Two

of the veins (128/78N) contain coarse disseminations of wolframite.

Minor greisenization is present along a few 137/86W trending joints.

malachite-bornite-fluorite occur in pegmatitic pods in the DC ImTp. Sericite greisenization attaining widths of 15cm is common along the

4/ At the head of Prospect Bay, numerous greisen-bordered quartz veins

(c1 cm) containing tourmaline, chalcopyrite, bornite, wolframite and

molybdenite occur in a well developed, dominant joint set (148/85W).

5/ Along Highway #103 west of Tantallon a series of parallel quartz veins

(137/90) occur with associated greisenization. Veins are generally 1-3 cm

wide, spaced 1 m apart and contain abundant pyrite. One vein con-

tains coarse disseminations of wolframite. The veins are hosted in per-

6/ Just west of Island Lake twelve narrow (1-2 cm) parallel, northwest

trending quartz arsenopyrite veins cross-cut a fine grained two-mica

leucomonzogranite. Some veins approach 80-90% arsenopyrite and may contain minor pyrite. One sample contained minor pyrite. One sam-

7/ Near Sandy Lake, a series of subparallel northwest trending arseno-

8/ One narrow quartz vein (approx 1.0 cm wide) with disseminated arsenopyrite cuts the DClmHX near Upper Five Bridge Lake.

9/ Along Highway#103 near the Ingram River two occurrences have

northwest trending (150/80 W and 145/76 E) quartz greisens (up to 18 cm

wide) which contain finely disseminated pyrite, chalcopyrite, bornite,

cassiterite and malachite. In the outcrop hosting the western occur-

rence a small extensively hematized pod (1 m2) has an elevated radio-

D12-06⁶ At Upper Tantallon, galena and pyrite in a quartz vein which

D05-02⁶ On the East Dover road, beryl has been reported in a cordierite-

D05-01⁶ Approximately 1 km west of Terence Bay, pyrite-bearing quartz

groundmass and medium- to coarse-

grained phenocrysts (i.e. bimodal

grain size distribution). Phenocrysts

rarely exceed 2 cm. adj. porphyritic

is significantly larger than the sur-

rounding groundmass. In the South

Mountain Batholith megacrysts are

K-feldspar, and rarely plagioclase,

in length) in medium- to coarse-

grained rocks. adj. megacrystic

2% combined mafic minerals.

mineral occurrence card number.

1908: City of Halifax Sheet, Map No. 68; Geological Survey of

1979: Geophysical series, Airborne Gamma Ray Spectometric

1987: Till Clast and Simplified Glacial Geology of the Halifax Peninsula. (N.T.S. sheet 11D/12 and 11D/05), Nova Scotia

Department of Mines and Energy, Map 87-4.

1979: Geological Map of Nova Scotia; Nova Scotia Department

1982: Stratigraphy and sedimentology of the Meguma Zone and

part of the Avalon Zone. In The Caledonide Orogen, Nato

Advanced Study Institute, Atlantic Canada, August 1982.

Compiled by A. F. King. Department of Earth Sciences,

Memorial University of Newfoundland, St. John's New-

foundland., IGCP project 17, report 9, pp. 189-307.

1976: To each plutonic rock its proper name; Earth Science

Review, v. 12, p. 1-33.

of Mines and Energy, Scale 1;500 000.

Map No. 35411(12G) Equivalent U/ Equivalent Th, Halifax.

predominantly subhedral to euhedral

crystals (generally between 2.5-7 cm

composition with less than 6% com-

metric response from disseminated uranium mineralization.

veins, which were prospected for gold, have been reported.

¹PORPHYRY: A rock with predominantly fine grained

²GRANODIORITE-MONZOGRANITE-SYENOGRANITE:

³MEGACRYST: A nongenetic term for a crystal that

⁴LEUCOMONZOGRANITE: A rock of monzogranitic

⁵LEUCOGRANITE: A granitoid rock with less than

⁶Nova Scotia Department of Mines and Energy

bined mafic minerals.

Canada; publication No. 1019.

Geological Survey of Canada

Graves, R.M. and Finck, P.W.

Keppie J. D. (Compiler)

After Streckeisen (1976).

vasively hematized leucomonzogranite (DClmHX).

3/ At the head of Shad Bay, wolframite-chalcopyrite and chalcopyrite-

arsenopyrite-rich quartz vein returned 7.6% As and 550 ppb Au.

Sheehan Cove, where deformed, cataclastic rocks of the fault zone are

alkali feldspar, plagioclase, cordierite and biotite. Phenocrysts of euhedral

leucomonzogranite which occurs in the north-western lobe of the Tan-

tallon leucomonzogranite. A narrow marginal phase (0-< 1.0km) of the

texturally heterogeneous DCImT is present around most of DCImTe.

which outcrops in a ditch along Highway #103 near the northwestern

contact with DCmgSL. Pebbles of this lithology have been noted in

several surficial till samples throughout this region (Graves, pers. comm.).