Natural Resources
Geological Survey

GEOLOGY OF NEOPROTEROZOIC (EDIACARAN) ROCKS BETWEEN FOXTRAP AND CAPE ST. FRANCIS, EASTERN NEWFOUNDLAND

(Parts of NTS map areas 1N/7, 1N/10 and 1N/15)

MAP 2007 - 05

G.W. Sparkes

LEGEND

EARLY PALEOZOIC

Cambrian

ADEYTON and HARCOURT GROUPS (undivided)

28 Red and black shale and interbedded grey limestone; locally massive, poorly sorted boulder conglomerate at base

LATE NEOPROTEROZOIC

Ediacaran

BEAVER HAT INTRUSIVE SUITE [1]

27 Fine- to coarse-grained, massive gabbro (age of intrusion uncertain)

CONCEPTION GROUP

Drook Formation

26 Mannings Hill Member: Thick-bedded, grey to dark green, medium- to coarse-grained siliceous sandstone and interbedded pale green, thin- to medium-bedded siltstone; includes minor chert

25a 25b Torbay Member: Dark green, thin- to medium-bedded, parallel- to streaky-laminated, medium-grained siliceous sandstone (locally intercalated with Mannings Hill and Bauline Line members); includes thin- to medium-bedded, red to green siliceous siltstone and buff-brown weathering sandstone (Unit 25b)

24 Bauline Line Member: Green to red silty sandstone, matrix supported conglomerate (mixtite; intercalated with the Torbay Member)

23 Broad Cove River Member: Medium- to thick-bedded, medium-grained, green sandstone containing rare siltstone rip-ups, and interbedded thin- to medium-bedded dark green siltstone; includes medium- to very thick-bedded pale green chert

HORSE COVE COMPLEX[1]

22 Mafic and felsic dyke swarm contained within unseparated submarine, epidote-rich mafic volcanic rocks, dark green volcaniclastic sandstone, and minor massive diorite

HERRING COVE DIORITE[1]

21 Fine- to medium-grained, massive, moderately magnetic diorite

WYCH HAZEL POND COMPLEX[2]

Princes Lookout Formation

20 Dark red to purple, weakly to strongly magnetic, hematite-rich massive and pillowed basalt, affected by abundant syn-volcanic brecciation; contains rafts of red, thin- to medium-bedded siltstone and interbedded fine-grained sandstone

Portugal Cove Formation

19 White-weathering, thin- to medium-bedded siliceous sandstone and interbedded brown-weathering sandstone; contains minor unseparated fine-grained gabbro

18 Massive, brown-weathering, epidote-rich volcaniclastic sandstone, containing abundant mafic volcanic detritus; minor unseparated epidote-rich submarine mafic volcanic rocks and associtated hyaloclastite

17 Moderately vesicular, locally amygdaloidal, epidote-rich, dark green to purple, massive to locally pillowed basalt; associated hyaloclastite

16 Thin- to medium-parallel-bedded, moderately to strongly siliceous, green to red siltstone and interbedded medium- to coarse-grained subarkosic sandstone and minor pumiceous tuff; locally with pebble to boulder conglomerate at base

15 Dark purple to grey-green, weakly to moderately feldspar-phyric flow-banded rhyolite with locally developed autobrecciation

MANUELS VOLCANIC SUITE[2]

14 White- to yellow-weathering silica–sericite–pyrite–pyrophyllite–diaspore–rutile hydrothermal alteration with varying proportions of each mineral

13 White- to pale yellow-weathering sericite–silica hydrothermal alteration containing patchy development of pyrite; alteration is associated with prominent shear zones

12 Fine-grained, dark brown- to dark green-weathering, moderate to weakly magnetic, locally amygdaloidal and plagioclase-phyric basalt; minor mafic intrusive

11 White, pervasive silica alteration without pyrophyllite–diaspore

10 Massive crystal-rich ash-flow tuff, containing mm-scale white crystals, rare cm-scale, dark purple, collapsed pumice fragments and minor disseminated pyrite in a dark green to red groundmass

9 Dark purple-weathering, massive volcaniclastic breccia containing subangular to sub-rounded fragments; contains minor unseparated aphanitic massive rhyolite

8 Dark purple to grey-green, white-weathering aphanitic rhyolite with locally developed lithophysae and rare porphyritic zones containing mm-scale white feldspar crystals

WHITE HILLS INTRUSIVE SUITE[3]

7 Pale purple-weathering, quartz–feldspar porphyry, containing fine-to-medium-grained phenocrysts of plagioclase, quartz and K-feldspar within a light purple aphanitic groundmass

6 Unseparated quartz–feldspar porphyry and medium- to coarse-grained equigranular granite

5 Hydrothermally altered (silica–sericite–chlorite–pyrite), grey-green- to pale pink-weathering, medium- to coarse-grained, equigranular, quartz–K–feldspar–plagioclase-bearing granite

4 White-weathering monzonite containing coarse-grained, pale green plagioclase and fine- to medium-grained chlorite, quartz and K-feldspar; locally contains 2–10 cm diameter fine-grained dioritic xenoliths

HOLYROOD INTRUSIVE SUITE

3 Propylitized granite with a pale pink–white–green-weathering, generally equigranular to quartz-phyric, containing sub-equal amounts of plagioclase, K-feldspar and quartz

WHITE MOUNTAIN VOLCANIC SUITE[3]

2 Massive, crystal-rich lapilli tuff, containing mm-scale euhedral crystals of biotite, locally altered to sericite, minor agglomerate

1 Purple to grey-green rhyolite with fine- to medium-grained feldspar crystals within a flow-banded groundmass and minor fiamme-bearing ash-flow tuff, minor dark to pale green or pale pink, matrix-supported agglomerate containing sub-rounded to rounded fragments; fragments have dominantly bright pink, potassic-altered material

[1] informal nomenclature after Sparkes, G. W, 2006
[2] informal nomenclature after O'Brien *et al.*, 2001
[3] informal nomenclature after Sparkes *et al.*, 2005

Note :

Nomenclature is informal and, where possible, follows that established for the region west of the Tospail Fault.

Geological mapping east of the Tospail Fault by G.W. Sparkes, 2005, incorporates previous work by King (1990) and Hsu (1975), and unpublished work of S.J. O'Brien, Geological Survey, Newfoundland and Labrador, and Rubicon Minerals Corporation.

Geological mapping west of the Topsail Fault by G.W. Sparkes, 2002-2003 as part of a M. Sc. thesis carried out at Memorial University of Newfoundland, and incorporates published and unpublished work by S.J. O'Brien, Geological Survey, Newfoundland and Labrador, and B. Dubé, Geological Survey of Canada (e.g., O'Brien et al., 2001).

SYMBOLS

Geological contact (defined, approximate, assumed, gradational)
Fault (defined, approximate, assumed)
Thrust fault (defined,approximate)
Shear zone (defined,approximate, assumed)
Unconformity
Bedding
Cleavage
Foliation
Mineral occurrence
Outcrop location

ABBREVIATIONS

Copper ..... Cu
Cadmium ..... Cd
Gold ..... Au
Lead ..... Pb
Pyrite ..... Py
Pyrophyllite ..... Phy
Silver ..... Ag
Active mine site

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Copies of this map may be obtained from the Geoscience Publications and Information Section, Geological Survey, Department of Natural Resources, P.O. Box 8700, St. John's, NL, Canada, A1B 4J6

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Geological Survey: http://www.gov.nl.ca/mines&en/geosurvey/
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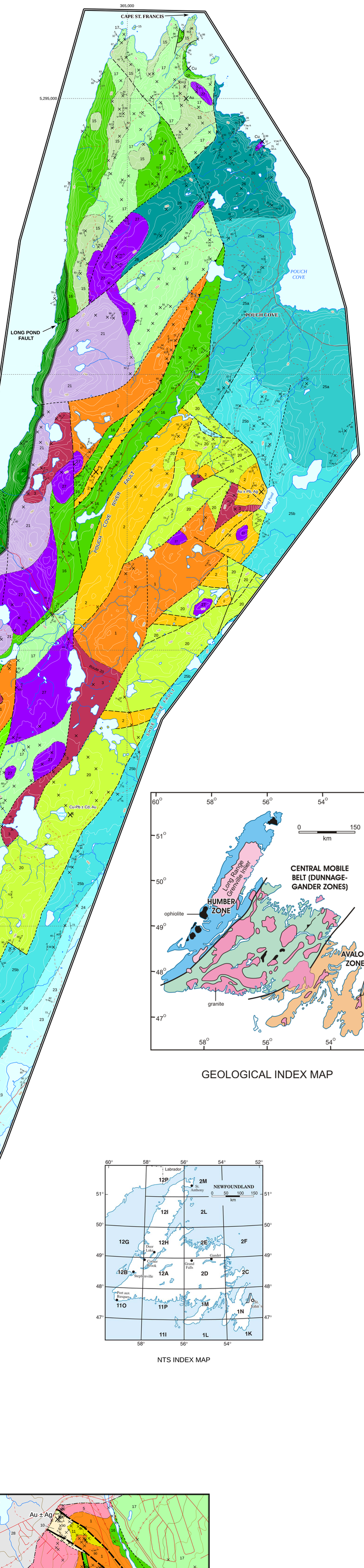

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