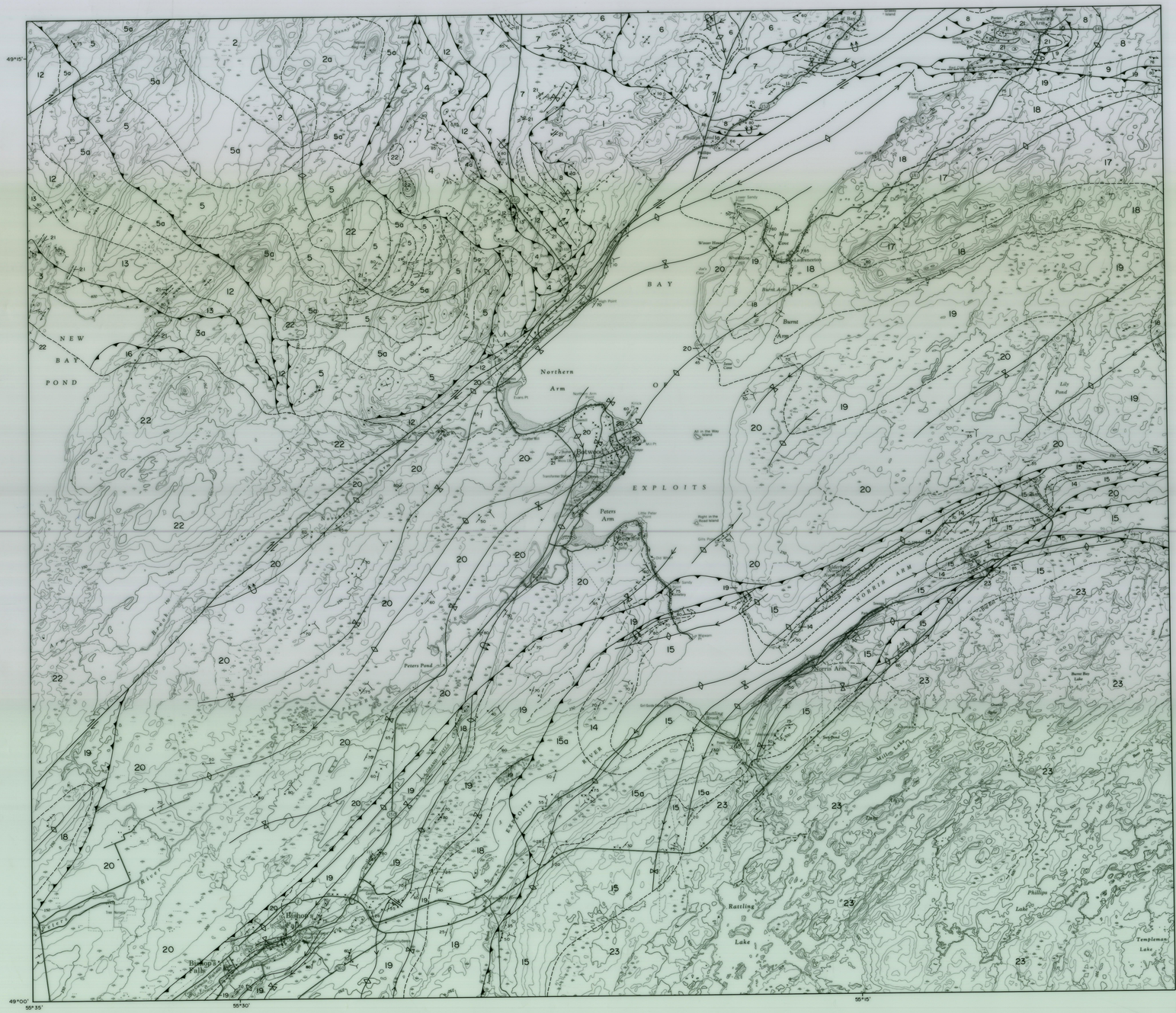

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
Department of Mines and Energy
Geological Survey Branch

GEOLOGY OF THE REGION AROUND BOTWOOD (PARTS OF 2E/3,4,6), NORTH - CENTRAL NEWFOUNDLAND

Scale 1 : 50,000

BRIAN H. O' BRIEN

LEGEND

SILURIAN OR DEVONIAN

MOUNT PEYTON INTRUSIVE SUITE

23 — massive, equigranular; fine-to-medium grained, hornblende-bearing diorite and gabbro; unseparated sheets of fine-grained biotite granite locally with miarolitic texture)

HODGES HILL INTRUSIVE COMPLEX

22 — massive, medium-grained, equigranular granodiorite and quartz monzonite; medium-grained equigranular gabbro; tuffisite; dykes of aplite, quartz-feldspar porphyry and plagioclase porphyritic diabase

Porterville Gabbro

21 — equigranular, fine-to-medium grained, massive and foliated gabbro (variably sheared, altered and mineralized); subordinate porphyritic and mesocrystic diorite; minor granite sheets; post-tectonic mafic dykelets; localized swarms of plagioclase porphyritic diabase near the satellite plutons of the Hodges Hill Intrusive Complex

SILURIAN

LLANDOVERY–LUDLOW (?)

BOTWOOD GROUP

Wigwam Formation

20 — red, massive to thick-bedded, trough cross-stratified, ripple-marked, mud-cracked sandstone with dentral mica; minor microconglomerate composed of red shale fragments; rare lava flows

19 — grey, medium-to thick-bedded, trough cross-stratified, ripple-marked, mud-cracked sandstone with dentral mica (red and buff varieties contain secondary ferroan carbonate and pyrite near faults); minor well-bedded quartz-rich sandstone; interstratified red and green sandstone with minor red slate and argillite occur at top of unit

Lawrencetown Formation

18 — purplish grey, vesicular, porphyritic basalt; reddish purple autobrecciated basalt, minor red conglomerate with abundent intrabasinal basalt clasts; cavease-fill basalt-hosted red sandstone (with baked margins)

17 — pink and grey flow-banded rhyolite; poorly stratified, grey, crystal-lithic tuff and felsic agglomerate; grey, aphanitic, intermediate flows or fine-grained tuffs; minor lahar units containing large blocks of ignimbrite and basalt

CHARLES LAKE VOLCANICS

15 — unseparated units of red flow-banded rhyolite, pink ash-flow tuff and intermediate pyroclastic rocks

ORDOVICIAN AND SILURIAN

ASHGILL–LLANDOVERY

BADGER GROUP

Campbellton Greywacke

15 — thin-bedded and laminated, grey-green argillite interstratified grey-green shale; light green shale and dark green argillite rhythmites; light grey, thin-to-medium bedded, graded turbidite sandstones; interstratified, light green and light grey, siliceous argillite locally mottled, stumped or intermittated with dark grey to black cherty mudstone); chert pebble microconglomerate; **15a**, fossil-bearing interval of thinly interbedded, dark grey siltstone and light grey sandstone; fossiliferous, thin-to-medium bedded, calcareous sandstone turbidites with locally interstratified, graded pebble microconglomerate beds

Lewisporte Conglomerate

14 — lenticles of grey, green and minor red, cobble-to-boulder, polymictic conglomerate with distinctive clasts of jasper, metatonalite, green calatonitic chert and porphyritic basalt; pebbly wacke interstratified with polymictic conglomerate lenses

Gull Island Formation (Samson Greywacke/Point Learnington Formation)

13 — light grey, massive granular wacke (locally with pebbly bases) interstratified with thick-bedded, light grey, concretionary sandstone, and very rare siltstone and mudstone

ORDOVICIAN

LLANDEILO–CARADOC

Shoal Arm Formation

12 — black carbonaceous shale; black pyritiferous siltstone with black shale partings; grey chert with bioturbated black shale laminae and locally with brown-weathered manganiferous layers; red radiolarian chert; minor interbedded red and green siliceous argillite near base; minor massive to thick-bedded sandstone turbidites and rare debris flows near top

ARENIG–LLANDEILO (?)

Thwart Island Gabbro

11 — cumulate-layered gabbro sills with crescumulate pyroxene; hornblende- and quartz-bearing gabbro pegmatites; marginal phases of highly vesicular diorite and diabase

LLANVIRN–LLANDEILO

EXPLOITS GROUP (Units 6 to 10)

Strong Island Chert

10 — thin-bedded, ribboned, radiolarian chert and grey orbicular chert interbedded with thin-bedded, graded, variably silicified, feldspathic wacke; minor green and red, siliceous argillite and laminated chert interbeds; rare pillow breccia

Putbeck Cove Basalt

9 — basaltic pillow lava and subordinate pillow breccia; minor intervals of dark green chert and grey epiclastic sandstone; diabase dykes

ARENIG–LLANVIRN (?)

New Bay Formation (upper)

8 — light grey, nodular, siliceous argillite interbedded with thin, slump-folded sandstone; interstratified, red and green, chert-charty argillite rhythmites; grey and red olistostromes containing resedimented cobble conglomerate and detached slump-folds of epiclastic sandstone beds; conglomeratic-to-pebbly, graded wacke with distinctive clasts of tonalite, limestone and basalt

New Bay Formation (middle)

7 — laminated, dark grey, pyritic, graptolite-bearing shale with subordinate, light grey, thin-bedded, siltstone and graded fine-grained sandstone

New Bay Formation (lower)

6 — medium-bedded, graded, light grey sandstone and interbedded, greenish grey shale and siltstone; minor pebbly-to-sandy wacke containing common rip-up clasts of dark grey shale and slump-folded argillite; abundant sandstone dykes; minor, grey, polymictic conglomerate and graded wacke

LLANVIRN–LLANDEILO (?)

WILD BIGHT GROUP (Units 2 to 5)

Big Lewis Lake Basalt

5 — pillow breccia with subordinate pillow lava; **5a**, several interstratified and intertongued units of green-grey epiclastic wacke, laminated argillite and shale

ARENIG–LLANVIRN (?)

Northern Arm Basalt

4 — pillow lavas with interstitial variegated chert, subordinate graded pillow breccias; **4a**, minor intervals of graded epiclastic wacke and green-grey laminated argillite

New Bay Pond Basalt

3 — pillowed vesicular basalt (locally mylonitic) with abundant mafic dykes; **3a**, graded mafic agglomerate interstratified with tuffaceous wacke

Nanny Bag Lake Volcanics

2 — interstratified pillow lava and pillow breccia; **2a**, buff-weathered felsic pyroclastics and pink flow-layered rhyolites

ARENIG (?)

Phillips Head Igneous Complex

1 — pyroxene- and plagioclase-phyric vesicular diorite; uniformly autobrecciated diorite with overgrowing pyroxene, hornblende and feldspar megacrysts; localized swarms of vesicular diabase dykes; **1a**, bedded pillow lava and pillow breccia with subordinate epiclastic sandstone grading to green argillite

KEY

geological boundary (approximate, assumed)

bedding (inclined, overturned)

anticline (upright, overturned)

syncline (upright, overturned)

slaty cleavage (vertical, inclined)

younging direction

fold axial trace (plunge direction indicated)

reverse fault (barbs in direction of dip)

strike-slip fault (sense of displacement indicated)

inland exposures examined

NOTES

This preliminary open file map is subject to revision and correction. It is based on examination of shoreline and certain inland exposures and integration of these information sources with existing 1:50 000 scale maps of the region. Approximate mean declination (1992) for centre of map is 25 degrees 1 minute west.

Elevation in feet above mean sea level; contour interval 50 feet.

Copies of this map are available from Publications and Information Section, Geological Survey Branch, Department of Mines and Energy, P.O. Box 8700, St. John's, Newfoundland, Canada A1B 4J6.

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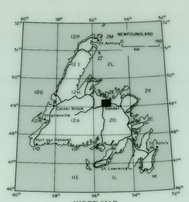
Geological cartography by Cartographic Section, Geological Survey Branch, Department of Mines and Energy, Government of Newfoundland and Labrador.

MAP 93-168

Open File 002E/0869



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