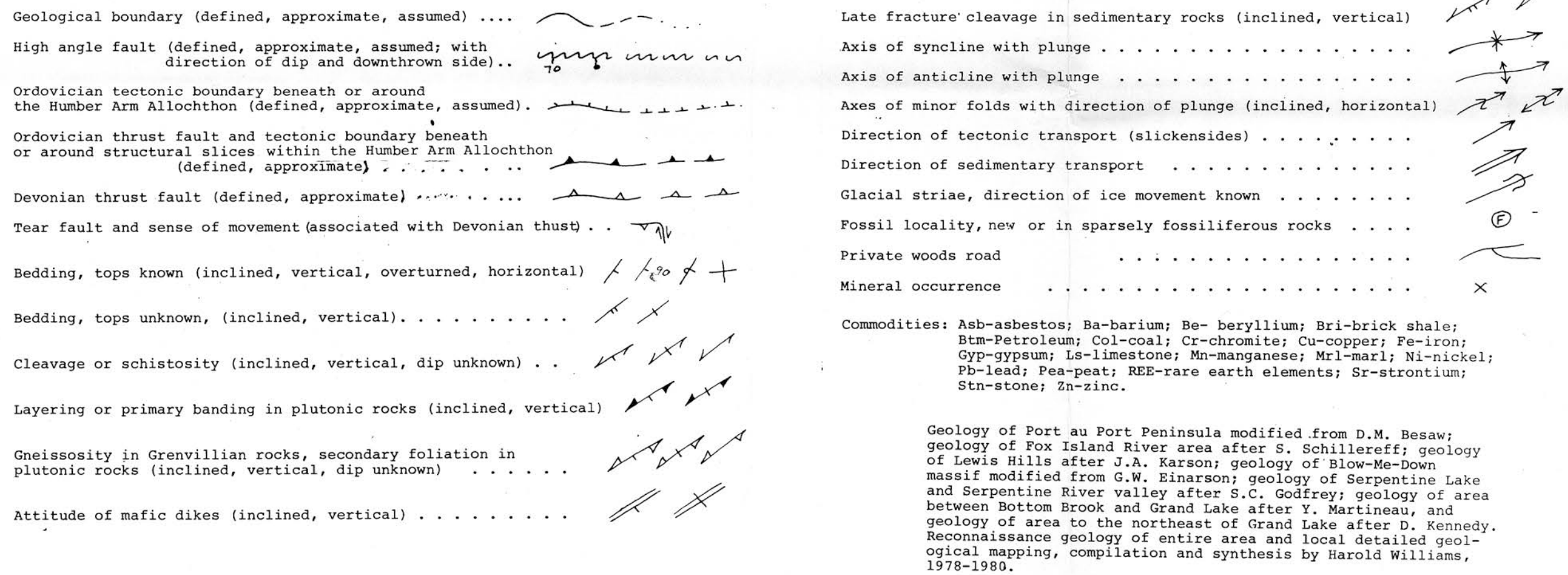


GEOLOGICAL MAP OF STEPHENVILLE MAP AREA,
NORTH HALF, SOUTHWESTERN NEWFOUNDLAND
H. Williams



COVER ROCKS ON ACADIAN DEFORMED ZONE

Carboniferous

Codroy and Barachois Groups

43 Polymictic conglomerate, grey to brown and red plant-bearing sandstone, fossiliferous limestone and gypsum.

NEOAUTOCHTHONOUS ROCKS (locally upon Taconic Deformed Zone)

Upper Silurian to Lower Devonian

Clam Bank Group

42 Crossbedded red sandstone and pebble conglomerate, grey sandstone and fossiliferous limy shale in central part of section

Middle Ordovician (Caradocian)

Long Point Group (40-41)

41 Winterhouse Formation and Lourdes Limestone (upper part): thin bedded limy sandstone, limestone and shale; local thin olistostromal units.

40 Lourdes Limestone (lower part): thin bedded fossiliferous limestone with local reefs, sandy limestone and crossbedded sandstone at base.

AUTOCHTHONOUS CARBONATE AND CLASTIC ROCKS

Middle Ordovician (Llanduirian to Caradocian)

17 Mainland Sandstone: grey to green micaceous sandstone; 17a, Cow Rocks Member, crossbedded grey to pink quartz sandstone and grey limestone

Middle Ordovician (Llanduirian)

Table Head Group (15-16)

16 Cape Cormorant Formation: coarse limestone breccia and conglomerate overlain by grey to black calcareous shales with limestone breccia units thinner and finer upwards; mainly black graphitic partitic shale and slate in east.

15 Table Point, Table Cove and Black Cove Formations: thick bedded grey to bluish grey limestone, bioturbated mottly limestone, minor dolomite, grey to black shale, limestone breccia and conglomerate.

Middle Cambrian to Lower Ordovician

14 St. George Group (Lower Ordovician): grey to buff and pink medium to thick bedded dense to mottly limestone and dolomite, stromatolitic limestone, limestone breccia, red and green shale and minor chert. March Point and Petit Jardin Formations (Middle and Upper Cambrian): thin to medium and thick bedded grey limestone, shale, argillaceous dolomite, grey to buff flatpebble conglomerate, nodular to sandy and oolitic limestone; 14a, basal unit of grey limestone with thin shale units; 14b, highly deformed and recrystallized limestone.

Lower Cambrian

13 Degras Formation: thick bedded white to grey and pink crossbedded sandstone and quartzite with conspicuous trace fossils (Corophoides).

12 Kippens Formation: grey shale with thin limestone and nodular limestone beds, grey sandstone and quartzite; red fossiliferous staly limestone and a local thin arkosic unit at base.

INTRUSIVE ROCKS

Devonian (?)

19 Hare Hill Granite (19a), Goose Hill Granite (19b), Talks Pond Syenite (19c): medium grained massive pink granite and syenite.

Southwest Brook Intrusive Suite

18 Medium to coarse grained, massive to rhythmically layered gabbro, norite, diorite, pyroxenite and related rocks, minor granitic rocks

METACARBONATE ROCKS (autochthonous)

Lower Ordovician or Older

Grand Lake Brook Group

11 Thin bedded phyllite and grey to buff weathering crystalline limestone and calcareous schist, minor carbonate conglomerate and quartz mica schist.

METACLASTIC ROCKS (paraautochthonous)

Late Precambrian to Early Paleozoic

Bottom Brook Group (9-10)

10 Garnet hornblende muscovite schist, garnet biotite muscovite schist, calcareous partitic schist, marble, quartz albite mica schist and psammite schist.

9 Muscovite albite schist localized along west side of Cabot Fault.

GRENVILLIAN BASEMENT ROCKS (paraautochthonous)

Helikian or Older

Long Range Complex

8 Grey to pink marble and white quartzite (possibly Paleozoic)

7 Pink biotite quartz feldspar gneiss, hornblende plagioclase gneiss and associated granitic gneiss.

6 Light to dark grey well foliated biotite hornblende plagioclase gneiss and associated pink quartz feldspar gneiss.

5 Coarse grained massive to well foliated grey to bluish grey and buff anorthosite and gabbroic anorthosite, increasing deformation and metamorphism from west to east. Locally cut by mafic dikes, now amphibolite.

GRENVILLIAN BASEMENT ROCKS (autochthonous)

Helikian or Older

Indian Head Complex

4 Massive to foliated pink granite, quartz feldspar gneiss, pink syenitic gneiss, pink granite gneiss with magnetite-rich lenses and local pegmatite.

3 Light to dark grey foliated biotite hornblende plagioclase gneiss and associated pink feldspar gneiss, foliated dioritic and gabbroic gneiss, minor quartz feldspar gneiss and magnetite bearing mafic gneiss.

2 Layered gabbro and anorthositic gabbro, gradational with and related to anorthositic rocks (1).

1 Coarse grained massive to mildly foliated white to bluish grey anorthosite and gabbroic anorthosite, locally cut by mafic dikes.

HUMBER ARM ALLOCHTHON

Higher Structural Slices of Igneous and Metamorphic Rocks

Upper Cambrian to Lower Ordovician

Little Port Complex (25-27)

27 Gabbro with numerous mafic dikes and trondhjemitic intrusions; 27a, brecciated and altered mafic dike rock; includes mafic volcanics at Shog Island.

26 Serpentinized melange with asbestos bearing serpentinite, rodingite screens and local sedimentary and volcanic blocks

25 Massive to foliated gabbro, hornblende gabbro, metagabbro and amphibolitic mafic dikes; 25a, serpentized mafic to ultramafic rocks.

Upper Cambrian to Lower Ordovician

Mount Barron Complex (28-31)

31 Lherzolite, feldspathic lherzolite, wehrlite, minor pyroxenite (intrusions with fine grained margins), local intense deformation and serpentinization.

30 Quartz feldspar gneiss with layers of amphibolite and mafic gneiss

29 Banded to intensely foliated mafic gneiss and amphibolite, deformed mafic dikes, foliated to mylonitic harzburgite, wehrlite and pyroxenite. Gradational with gabbros (25) of Little Port Complex.

28 Mafic granulite and migmatite with anorthosite and pyroxenite veins.

Upper Cambrian to Lower Ordovician

Bay of Islands Complex (32-39)

39 Sheeted dike complex; altered mafic dikes and brecciated dikes, local gabbro screens.

38 Medium to coarse grained massive hornblende gabbro, diorite, quartz diorite and trondhjemite.

37 Layered to massive medium to coarse grained gabbro, hornblende gabbro, anorthositic gabbro, minor troctolite, olivine gabbro and pyroxenite. Cut by mafic dikes increasing in abundance upward.

36 Interlayered dunite, feldspathic dunite, troctolite, clinopyroxenite, olivine gabbro and anorthosite. Transitional or 'Critical Zone' between ultramafic rocks (below) and gabbroic rocks (above).

35 Gabbro, wehrlite, troctolite, clinopyroxenite and feldspathic dunite, cumulate lenses in ultramafic rocks, local intense deformation.

34 Serpentinized dunite with veins and lenses of feldspathic dunite, pyroxenite, wehrlite and chromite.

33 Serpentinized medium to coarse grained harzburgite, dunite and pyroxenite, minor lherzolite.

32 Metamorphic aureole; mainly well foliated medium grained amphibolites and greenschists of gabbroic and mafic volcanic protolith. 32a, quartz feldspar mica schist of sedimentary protolith.

Intermediate Structural Slices of Mafic Volcanic Rocks

Lower Ordovician or Older

Fox Island Group

24 Purple to red and green pillow lava, volcanic breccia and tuff. Limestone fills pillow interstices and occurs as lenses and interbeds among the volcanic rocks.

Lower Structural Slices of Sedimentary Rocks (Humber Arm Supergroup 20-23)

Lower Ordovician

22 Blow Me Down Brook Formation: greywacke and arkosic sandstone, pebble conglomerate, dark grey and red argillite, minor quartz sandstone.

Middle Cambrian to Lower Ordovician

21 Cooks Brook Formation: thin bedded dark grey shale and light grey platy limestone with prominent thick limestone breccia units; 21a, Middle Arm Point Formation: thin bedded black and green shale with minor limestone.

Lower to Middle Cambrian

20 Irishtown Formation: dark grey to black shale with conspicuous thick bedded units of white quartzite and quartz pebble conglomerate.

Lower Ordovician and Older

23 Dark grey to black shale, commonly chaotic (west) with outsize blocks and slices of Humber Arm Supergroup sedimentary rocks (20, 21, 22), volcanic rocks (24) and plutonic (34, 37, 39) and metamorphic (32) rocks. May include autochthonous rocks (16) in east.