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

MAP 98-02

GEOLOGY OF THE CONNAIGRE PENINSULA AND ADJACENT AREAS, SOUTHERN NEWFOUNDLAND

(Parts of NTS 1M/5, 6, 11, 12 & 14 and 11P/8 & 9)

SCALE 1:100 000

0 2 4 6 8 10
kilometres

Compiled by from the following sources:

Widmer, 1950; Smith and White, 1954; Williams, 1971; Greene, 1975, 1977; O'Driscoll, 1977; Colman-Sadd, Greene and O'Driscoll, 1979; Dickson, 1983, 1987; Smith and Hiscott, 1984; Smith and White, 1954; Furey and Strong, 1986a,b; O'Brien and O'Driscoll, 1994.

Incorporates unpublished data of S.J. O'Brien, C.F. O'Driscoll and B.A. Greene, and U-Pb geochronology of R.D. Tucker (Washington University) and G.R. Dunning (Memorial University of Newfoundland). Geology, geochronology and stratigraphic nomenclature reviewed in O'Brien *et al.*, 1992 and 1995.

Geological base digitized at 1:50 000 by J.S. Ash; further digital compilation by J.S. Ash and S.J. O'Brien.

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Mineral occurrences compiled from the above sources and from the Mineral Occurrence Data System.

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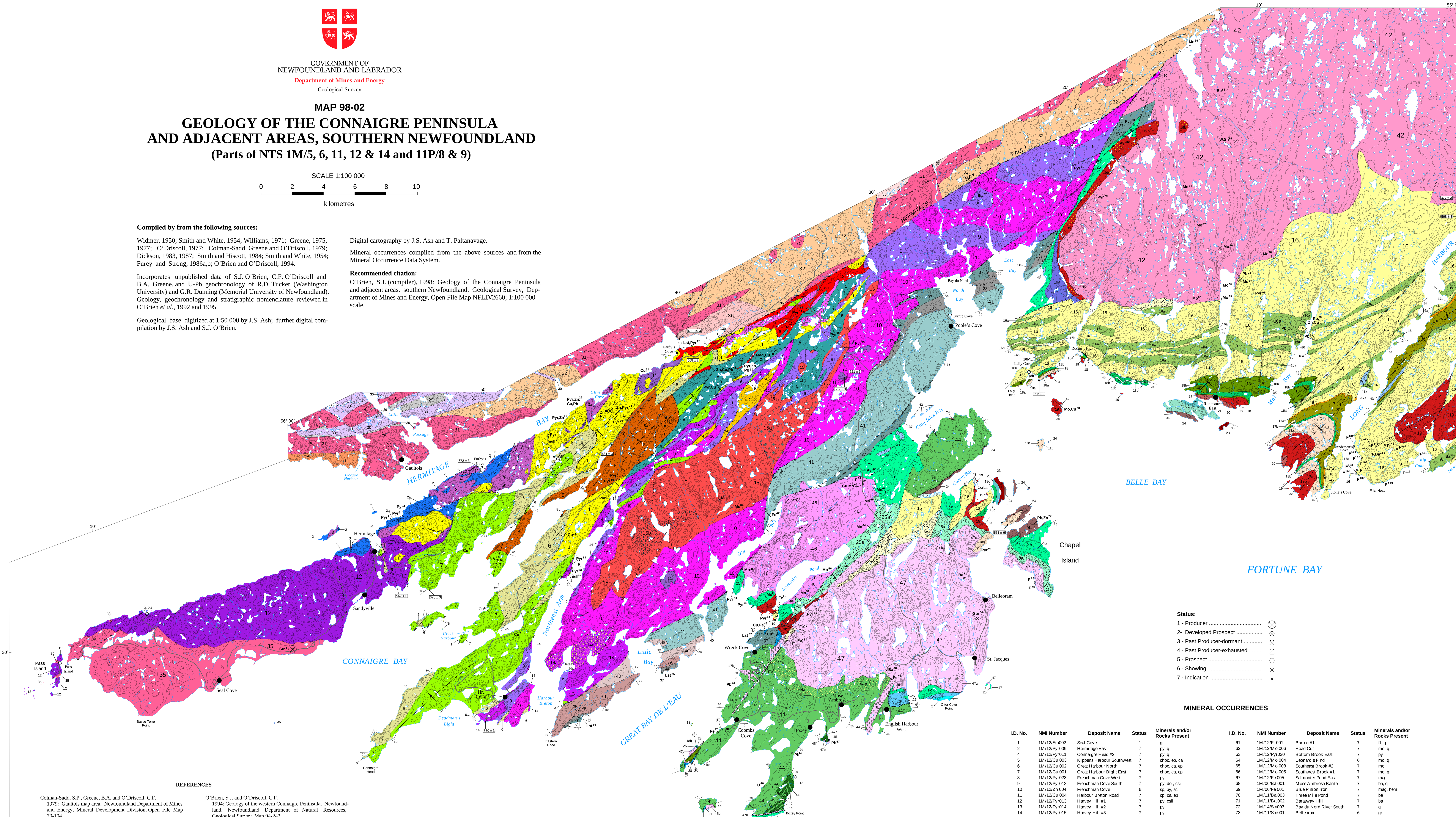
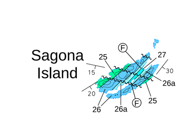
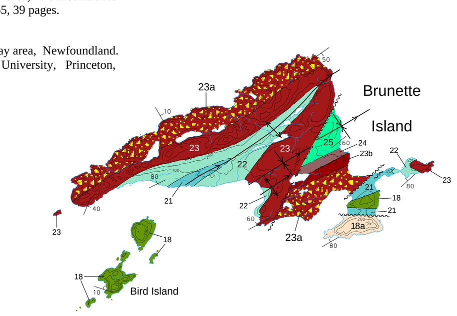






Status:
1 - Producer
2- Developed Prospect
3 - Past Producer-dormant
4 - Past Producer-exhausted
5 - Prospect
6 - Showing
7 - Indication

MINERAL OCCURRENCES

I.D. No.	NMI Number	Deposit Name	Status	Minerals and/or Rocks Present
1	1M/12/Stn002	Seal Cove	1	gr
2	1M/12/Pyr009	Hermitage East	7	py, q
4	1M/12/Pyr011	Connaigre Head #2	7	py, q
5	1M/12/Cu 003	Kippens Harbour Southwest	7	choc, ep, ca
6	1M/12/Cu 002	Great Harbour North	7	choc, ca, ep
7	1M/12/Cu 001	Great Harbour Bight East	7	choc, ca, ep
8	1M/12/Pyr023	Frenchman Cove West	7	py
9	1M/12/Pyr012	Frenchman Cove South	7	py, dol, csil
10	1M/12/Zn 004	Frenchman Cove	6	sp, py, sc
11	1M/12/Cu 004	Harbour Breton Road	7	cp, ca, ep
12	1M/12/Pyr013	Harvey Hill #1	7	py, csil
13	1M/12/Pyr014	Harvey Hill #2	7	py
14	1M/12/Pyr015	Harvey Hill #3	7	py
15	1M/12/Zn 001	Frenchman Head	5	sp, gn, cp, py, q, ch
16	1M/05/Lst001	White Point	7	lst
17	1M/12/Pyr008	Connaigre Bay "C"	6	py
18	1M/12/Zn 005	Olive Cove South #2	6	sp, py
19	1M/12/Pyr007	Connaigre Bay "B"	6	py
20	1M/12/Pyr004	Olive Cove South #1	6	py
21	1M/12/Zn 006	Olive Cove South #3	6	sp, py
22	1M/12/Pyr006	Connaigre Bay "A"	6	py
23	1M/12/Pyr005	Connaigre Bay Main	6	py
24	1M/12/Cu 005	Shoal Brook	7	(cp), py, ep, ch
25	1M/05/Lst002	Little Bay Head	7	lst
26	1M/12/Pyr016	Hardy's Cove East	7	py, lst
27	1M/05/Fe 001	Coomb's Cove Iron	7	hem, ca
28	1M/12/Cu 010	Winter Hill West	6	cp, py
29	1M/12/Mo 010	Taylor Bay Hills	7	mo
30	1M/05/U 001	Coomb's Cove	7	(U)
31	1M/12/Pyr021	Red Cove Head	7	py
32	1M/12/Zn 002	Winter Hill	5	sp, gn, cp, mal, cco, csil
33	1M/05/Pb 001	Blunder Cove	6	gn, ca, fl, sp, py
34	1M/12/Mo 009	Rattling Brook West	7	mo
35	1M/12/Mo 001	Shoal Cove	7	mo, q
36	1M/12/Pyr022	Bald Point	7	py
37	1M/12/Lst001	Wreck Cove	6	lst, ca
38	1M/12/Cu 011	Winter Hill North	6	cp, sp, mag
39	1M/12/Zn 003	Winter Hill East	6	sp, gn, py
40	1M/05/U 002	Boxey Point Northwest	7	(U)
41	1M/12/Mo 011	Bald Cove Northeast	7	mo
42	1M/12/Fe 001	Old Bay West	6	mag, hem
43	1M/12/Cu 006	Net Point	7	bo, hem, mag, fl, mal
44	1M/12/Pyr001	Salmonier Cove	7	py
45	1M/12/Fe 006	Bufford Cove North	7	mag
46	1M/12/Cu 007	Pig Point South	7	cp, gn, py, ma
47	1M/12/Stn001	Old Bay Quarry	3	gr
48	1M/12/Fe 002	Salmonier Cove Southeast	7	mag
49	1M/12/Fe 003	Salmonier Cove East	7	mag
50	1M/05/Pb 002	Open Cove	7	gn, ca
51	1M/12/Pyr002	English Harbour Hills	7	py
52	1M/12/Mo 003	Salmonier Pond #2	7	mo, q
53	1M/12/Fe 004	Salmonier Pond #3	7	mag
54	1M/12/Pyr017	Country Road #1	7	py
55	1M/12/Pyr018	Country Road #2	7	py
56	1M/12/Mo 002	Salmonier Pond #1	7	mo, q
57	1M/05/Pb 003	Boxey Harbour Head	7	gn
58	1M/12/Pyr003	Salmonier Pond #5	7	py
59	1M/12/Pyr019	Country Road #3	7	py
60	1M/12/Mo 007	Furey's Find	7	mo, q
61	1M/12/Fl 001	Barren #1	7	fl, q
62	1M/12/Mo 006	Road Cut	7	mo, q
63	1M/12/Pyr020	Bottom Brook East	7	py
64	1M/12/Mo 004	Leonard's Find	6	mo, q
65	1M/12/Mo 008	Southeast Brook #2	7	mo
66	1M/12/Mo 005	Southwest Brook #1	7	mo, q
67	1M/12/Fe 005	Salmonier Pond East	7	mag
68	1M/06/Ba 001	Mose Ambrose Barite	7	ba, q
69	1M/06/Fe 001	Blue Pinion Iron	7	mag, hem
70	1M/11/Ba 003	Three Mile Pond	7	ba
71	1M/11/Ba 002	Barasway Hill	7	ba
72	1M/14/Sia003	Bay du Nord River South	7	q
73	1M/11/Stn001	Belleoram	6	gr
74	1M/11/Pyr002	Iron Head Pyrite	7	py
75	1M/11/Fl 019	Chapel Island #2	7	fl
76	1M/11/Fl 018	Chapel Island #1	7	fl
77	1M/11/Pb 005	Chapel Island Lead	6	gn, sp
78	1M/11/Mo 007	Belle Island	6	mo, q, cp, fl, py, carb, ba,
79	1M/14/Pyr016	East Bay Fault #1	7	py
80	1M/14/Pyr017	East Bay Fault #2	7	py
81	1M/14/Pyr018	Little Blue Hill Pond #1	7	py
82	1M/14/Pyr020	Little Blue Hill Pond #3	7	py
83	1M/14/Pyr019	Little Blue Hill Pond #2	7	py
84	1M/14/Mo 004	Spout Pond	7	mo
85	1M/11/Mo 001	Motu	6	mo, py, q, mu
86	1M/14/Mo 003	Big Blue Hill Pond	7	mo, bs
87	1M/11/Mo 006	Frank's Pond	6	mo, q
88	1M/14/Be 002	Big Blue Hill Pond East	6	by
89	1M/11/Mo 002	Ackley City	5	mo, sp, cp, py, po, fl, ba,
90	1M/11/Mo 008	North Hill Molybdenum	6	mo, q
91	1M/14/W 001	Rencontre Brook	6	wof, cas
92	1M/11/Mo 003	Crow Cliff	6	mo, q
93	1M/11/Pb 004	Dunphey Brook Lead	6	gn, sp, py, fl
94	1M/11/Mo 004	Dunphey Brook Molybdenum	6	mo, q
95	1M/11/Pyr001	Mal Bay Northwest	7	py, q
96	1M/11/Mo 005	Wylie Hill	5	mo, py, q
97	1M/11/Pb 002	Mal Bay #2	7	gn, sp
98	1M/11/Pb 001	Mal Bay #1	6	sp, gn, cp, py, carb, ch, q,
99	1M/11/Pb 003	Mal Bay #3	7	gn
100	1M/11/Fl 005	Stones Cove	7	fl
101	1M/11/Fl 006	Long Harbour #2	7	fl
102	1M/11/Fl 007	Long Harbour #3	7	fl
103	1M/11/Fl 015	Lobster Cove Point #3	7	fl
104	1M/11/Fl 014	Lobster Cove Point #2	7	fl
105	1M/11/Fl 016	Lobster Cove Point #4	7	fl
106	1M/11/Fl 017	Lobster Cove	7	fl
107	1M/11/Fl 013	Lobster Cove Point #1	7	fl
108	1M/11/Fl 003	Lobster Cove North	7	fl, ca
109	1M/11/Fl 008	Long Harbour #4	7	fl
110	1M/11/Fl 020	Long Harbour #6	7	fl
111	1M/11/Fl 001	Old Baldy	6	fl, ba, q, ca
112	1M/11/Fl 021	Long Harbour #7	7	fl
113	1M/11/Fl 012	Friar Head	7	fl
114	1M/11/Fl 004	Long Harbour #1	7	fl,q
115	1M/11/Fl 009	Long Harbour #5	7	fl
116	1M/11/Fl 002	Little Conne	7	fl,q
117	1M/11/Fl 011	Conne Big Head	7	fl
118	1M/11/Fl 010	Big Conne	7	fl
119	1M/11/Ba 001	Trammer Cove	7	ba

MINERAL OCCURRENCE SYMBOLS

Rock and Mineral Abbreviations				Commodity Abbreviations	
ba	barite	gn	galena	Ba	Barium
bo	bornite	gr	granite	Be	Beryllium
bs	bismuthinite	hem	hematite	Cu	Copper
by	beryl	lst	limestone	Fe	Iron
ca	calcite	mag	magnetite	Fl	Fluorine
cas	cassiterite	mal	malachite	Lst	Limestone
carb	carbonate	mo	molybdenite	Mo	Molybdenum
cco	chrysocolla	mu	muscovite	Pb	Lead
ch	chlorite	po	pyrrhotite	Pyr	Pyrite
choc	chalocite	py	pyrite	Sia	Silica
cp	chalcopyrite	q	quartz	Sn	Tin
csil	calc-silicate	sp	sphalerite	Stn	Building stone
dol	dolomite	U	uranium-bearing minerals	U	Uranium
ep	epidote	wof	wolframite	W	Tungsten
fl	fluorite			Zn	Zinc

REFERENCES

Colman-Sadd, S.P., Greene, B.A. and O'Driscoll, C.F.
1979: Gaultois map area. Newfoundland Department of Mines and Energy, Mineral Development Division, Open File Map 79-104.

Dickson, W.L.
1983: Geology, geochemistry and mineral potential of the Ackley Granite and parts of the North West Brook and Eastern Meelpaeg Complexes, southeast Newfoundland (Parts of map areas 1M/10, 11, 14,15,16; 2D/1,2,3 and 7). Newfoundland Department of Mines and Energy, Mineral Development Division, Report 86-3, 129 pages.
1987: Hungry Grove Pond, Fortune Bay District, Newfoundland. Newfoundland Department of Mines and Energy, Mineral Development Division, Open File Map 87-056.

Furey, D. and Strong, D.F.
1986a: Geological map of the Harbour Breton Complex, Fortune Bay Newfoundland. Geological Survey of Canada, Open File 1404.
1986b: Geological map of the Belleoram Pluton, Fortune Bay, Newfoundland. Geological Survey of Canada, Open File 1405.

Greene, B.A.
1975: Harbour Breton, Newfoundland. Newfoundland Department of Mines and Energy, Mineral Development Division, Open File Map.
1977: Harbour Breton miscellania, Newfoundland. *In* Report of Activities. Newfoundland Department of Mines and Energy, Mineral Development Division, pages 2-5.

O'Brien, S.J., O'Driscoll, C.F., and Tucker, R.D.
1992: A reinterpretation of the geology of parts of the Hermitage Peninsula, southwestern Avalon Zone, Newfoundland. *In* Current Research: Newfoundland Department of Mines and Energy, Geological Survey Branch, Report 92-1, pages 185-194.

O'Brien, S.J. and O'Driscoll, C.F.
1994: Geology of the western Connaigre Peninsula, Newfoundland. Newfoundland Department of Natural Resources, Geological Survey, Map 94-243.

O'Brien, S.J., O'Driscoll, C.F., Greene, B.A., and Tucker, R.D.
1995: Pre-Carboniferous geology of the Connaigre Peninsula and the adjacent coast of Fortune Bay, southern Newfoundland. *In* Current Research: Newfoundland Department of Natural Resources, Geological Survey Branch, Report 95-1, pages 267-297.

O'Driscoll, C.F.
1977: Geology, petrology and geochemistry of the Hermitage Peninsula, southern Newfoundland. Unpublished M.Sc thesis, Memorial University of Newfoundland, St. John's, Newfoundland, 144 pages.

Smith, S.A. and Hiscott, R.N.
1984: Latest Precambrian to Early Cambrian basin evolution, Fortune Bay, Newfoundland: fault-bounded basin to platform. Canadian Journal of Earth Sciences, Volume 21, pages 1379-1392.

Smith, B.L. and White.
1954: Geology of the Rencontre East area. Unpublished report and map, Geological Survey of Canada.

Williams, H.
1971: Geology of the Belleoram map area, Newfoundland. Geological Survey of Canada Paper 70-65, 39 pages.

Widmer, K.
1950: The geology of the Hermitage Bay area, Newfoundland. Unpublished Ph. D. thesis, Princeton University, Princeton, New Jersey, 439 pages plus map.

LEGEND

MIDDLE PALEOZOIC
DEVONIAN

BELLEORAM GRANITE

47, 47a, 47b — Grey to pink, medium- and fine-grained equigranular granite containing many small, dark-grey and green to black inclusions; 47a red felsite and fine-grained granite, developed locally at pluton's margin; 47b pink-to brown quartz-feldspar porphyry (Red Head Porphyry)

OLD WOMAN STOCK

46 — Pink, medium- and coarse-grained, porphyritic biotite granite; minor aplite

GREAT BAY DE L'EAU FORMATION (Units 44 and 45)

45 — Grey mafic sills and flows

44, 44a — Red, purple and buff, pebble to boulder conglomerate; minor green conglomerate and red and blackshale; 44a hornfels

43, 43a — Dark-green, locally brown-weathering pyroxenite and gabbro; 43a diorite and quartz diorite

ACKLEY GRANITE

42 — Pink, massive, coarse-grained and locally medium-grained, leucocratic, K-feldspar porphyritic granite

POOLS COVE FORMATION (Units 38 to 41)

41 — Boulder conglomerate: buff to pale orange in the northeast and dark-weathering, deep red to grey in the southwest part of the area

40 — Buff to pink and pale-orange arkosic sandstone and pebble conglomerate

39 — Red, pebble and locally boulder conglomerate

38 — Red arkosic sandstone, containing thin beds of pebble conglomerate; red conglomerate, extensively developed in the lower half of the unit in the northwest part of the area

CINQ ISLES FORMATION

37 — Red micaceous sandstone, red and grey quartz-pebble conglomerate, red shale, red and grey limestone

INDIAN POINT GRANITE

36 — Red to orange, medium-grained, leucocratic biotite granite

DEVONIAN ?

PASS ISLAND GRANITE

35 — Pink, medium- to coarse-grained, biotite-hornblende granite

SILURIAN AND/OR DEVONIAN

PICCAIRE GRANITE

34 — Pale-pink, medium-grained, equigranular biotite granite

NORTHWEST BROOK COMPLEX AND ASSOCIATED INTRUSIONS (Units 32 and 33)

33 — Unseparated, equigranular and K-feldspar porphyritic biotite and muscovite-biotite granite

32 — Foliated, medium-grained, equigranular, biotite- and muscovite-biotite granite; includes unseparated, foliated, pink muscovite granite of the Northwest Cove Granite

SILURIAN

GAULTOIS GRANITE

31 — Foliated, biotite-rich, pink-K-feldspar megacrystic granite

SILURIAN AND EARLIER

LITTLE PASSAGE GNEISS (Units 29 and 30)

30 — Light-grey, medium-grained, tonalitic orthogneiss

29 — Unseparated grey, green or pale-pink, fine- to coarse-grained paragneiss and dark-green, fine- to medium-grained amphibolitic gneiss

CAMBRIAN

YOUNGS COVE GROUP (Units 25-28)

LATE CAMBRIAN

Salmonier Cove Formation

28 — Black shale and minor grey, fine-grained sandstone

MIDDLE CAMBRIAN

Chamberlains Brook Formation

27 — Red and green shale containing minor quartzose sandstone beds near the base; minor grey shale and grey and pink limestone in the upper part

EARLY CAMBRIAN

Random Formation

26, 26a — White, cross-bedded orthoquartzite; minor red and grey shale and siltstone; 26a fine- to medium-grained, cross bedded, brown-weathering flaggy sandstone

Chapel Island Formation

25, 25a — Grey, micaceous siltstone and thin-bedded siliceous sandstone; also contains minor red siltstone, pink quartzitic arkose, grey micaceous sandstone, shale-pebble conglomerate and shale, and rare, grey limestone lenses; 25a hornfels

LATE NEOPROTEROZOIC

LONG HARBOUR GROUP (Units 16 to 24)

Rencontre Formation (Units 19 to 24)

(Units 19 and 20 occur only in the northern Fortune Bay area; Unit 22 occurs only on Brunette Island)

24 — Red micaceous siltstone and interbedded, buff-weathering, quartzitic arkose and pebble conglomerate

23, 23a, 23b — Pink, buff-weathering, medium- to coarse-grained, cross-bedded, quartzitic arkose and granule to pebble conglomerate; locally contains red siltstone; 23a red pebble conglomerate; 23b quartzitic arkose as in 23, containing minor amounts of red siltstone

22 — Red and grey, thin-bedded siltstone, and fine-grained sandstone and interbedded buff, coarse-grained, cross bedded quartzitic arkose; minor bright-red shale and green-grey and black-grey and black siltstone

21 — Grey and black, thin-bedded siltstone; fine-grained grey sandstone and black shale; rare grey limestone lenses; contains minor red siltstone and sandstone on the north coast of Fortune Bay

20 — Red to purple, medium- to coarse-grained sandstone

19, 19a, 19b — Purple conglomerate; minor sandstone and siltstone (forms the base of the Rencontre Formation in the northern Fortune Bay area, where it lies conformably on the Mooring Cove Formation and disconformably on the Belle Bay Formation); 19a unseparated, red and purple, locally micaceous, sandstone, siltstone and conglomerate; minor grey sandstone and siltstone; 19b hornfels

Mooring Cove Formation

18, 18a, 18b, 18c — Mainly green and purple basalt flows, and minor mafic pyroclastic rocks, locally containing unseparated tuffaceous sedimentary rocks; includes unseparated pillowed flows on the islands south of Brunette Island; 18a pink rhyolite flows and fine to coarse-grained pyroclastic rocks; 18b dark green to purple amygdaloidal basalt. 18c purple and red sandstone; grey slate and sandstone

Andersons Cove Formation

17, 17a, 17b — Grey slate, siltstone and sandstone; 17a purple tuffaceous sandstone, pebble conglomerate and agglomerate at base; 17b rhyolite

Belle Bay Formation

16, 16a, 16b, 16c — Pink-to purple, massive, banded and autobrecciated rhyolite, and locally, unseparated grey to green mafic tuffs and agglomerate; 16a purple to green and black basalt and andesite; 16b pebble conglomerate sandstone and argillite; 16c hornfels

HARBOUR BRETON GRANITE

15, 15a, 15b — Taylor Brook Stock of Harbour Breton Granite: pink, medium- to coarse-grained, mainly equigranular, biotite granite; 15a K-feldspar porphyritic hornblende granite; 15b fine-grained, plagiophyric monzogranite

14, 14a — Harbour Breton type area, Jerseymans Harbour and Northeast Arm bodies: pink, medium- to coarse-grained, mainly equigranular, biotite granite; 14a pink to red, medium- to coarse-grained, porphyritic hornblende - biotite granite

HARDY'S COVE GRANITE

13, 13a, 13b — Pink-to orange, medium-grained, equigranular granite; 13a buff to grey granodiorite and minor unseparated felsite; 13b grey to green, medium-grained diorite

GROLE INTRUSIVE SUITE (Unit 12)

12 — Unseparated, black and dark-green to grey, medium- to coarse-grained gabbro and grey, medium-grained, locally banded, quartz diorite and diorite; minor granodiorite and pink granite, the latter mainly as net-veins

11 — Dark-grey, green, black and black-and-white, medium- to coarse-grained and pegmatitic gabbro

SIMMONS BROOK INTRUSIVE SUITE (Units 9 and 10)

10 — Grey, medium-grained, equigranular, hornblende-biotite granodiorite and tonalite; minor gabbro

9 — Dark-grey to green, fine- to medium-grained diorite

CONNAIGRE BAY GROUP

Units 6, 7 and 8 listed in increasing stratigraphic order; units 4 and 5 may include rocks that pre-date the Connaigre Bay Group

Downs Point Formation

8, 8a — Red to purple, graded and cross-bedded sandstone and and pebble to cobble conglomerate; red laminated siltstone; 8a pink to purple, massive rhyolite and felsic lithic-crystal tuff and fine-grained breccia

Doughball Point Formation

7 — Grey to green, massive andesite and basalt; green mafic tuff and agglomerate; minor felsic flows and fine-grained pyroclastic rocks; includes unseparated hornfels

Sam Head Formation

6 — Grey and green, well-bedded and laminated siltstone and sandstone; grey and minor red, polymictic pebble to boulder conglomerate at or near the base of the formation; minor limestone

CONNAIGRE BAY GROUP ? (Units 5 and 6)

5 — Unnamed volcanic-clastic sequence: unseparated dark-grey and green, massive to layered mafic tuffs and grey and green tuffaceous sandstone; minor basalt

4 — Unnamed metamorphic sequence: metasedimentary and metavolcanic rocks, including psammite, massive to foliated amphibolite and rare mylonitic paragneiss; minor unseparated granodiorite and diorite

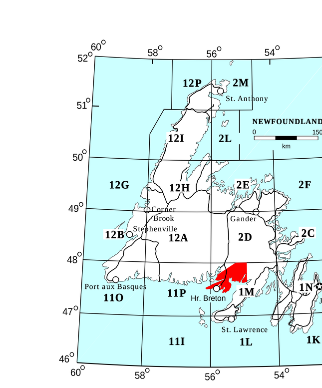
FURBYS COVE INTRUSIVE SUITE (Units 2 and 3)

3, 3a — Pink to white, equigranular, blue-quartz-bearing granite, locally forming narrow sheets; minor unseparated, mafic plutonic and related hybrid rocks; 3a granite porphyry

2, 2a — Medium-grained, green to dark-grey minor quartz diorite; minor unseparated, granite and hybrid rocks; also includes unseparated, mafic and felsic dykes and locally, screens of volcanic rocks; 2a diabase, felsite, and blue-quartz-phyric granitic dykes, containing narrow screens of country rocks

TICKLE POINT FORMATION

1 — Buff- to brown-weathering, pink to purple and green, felsic volcanic rocks, including massive and banded rhyolite flows and crystal- and crystal-lithic felsic tuffs; minor basalt and andesite flows and interlayered, tuffaceous sedimentary rocks; locally contains unseparated diorite sills and plugs



INDEX MAP

SYMBOLS

Geological contact (defined, approximate, assumed, gradational)
Unconformity
Fault (defined, approximate, assumed)
Bedding, tops known (inclined)
Bedding, tops unknown (inclined)
Fold axis (anticline, syncline with direction of plunge)
Published macrofossil occurrence
U-Pb (zircon) geochronology site (age in millions of years)