DEVONIAN TO CARBONIFERIOUS

DEVONIAN

SILURIAN

EARLY ORDOVICIAN

LATE CAMBRIAN TO EARLY ORDOVICIAN

MIDDLE CAMBRIAN

EARLY CAMBRIAN

LATE NEOPROTEROZOIC

DOVER - HERMITAGE BAY FAULT

ACKLEY GRANITE

D.A *Buff to pink, coarse grained, equigranular to porphyritic, biotite granite and granodiorite; pink, medium to fine grained, miarolitic, equigranular to porphyritic granite, alaskite and granite; Grand Bruit Lake - Pink, medium to coarse grained, orthoclase porphyritic, biotite granite; D.Ag - Massive, uniform, coarse grained, biotite granite*

SPANISH ROOM FORMATION

D.C.S *Red sandstone, conglomerate and calcareous mudstone; rare pale pink and white limestone and black shale*

TERRENCEVILLE FORMATION

D.C.T *Maroon and brown, pebble and cobble conglomerate; red sandstone, red and pale green mudstone*

Du *Undivided red sandstone and conglomerate; mafic and felsic pyroclastic rocks*

ROCKY RIDGE FORMATION

D.Rib *Riebeckite-bearing flow-banded rhyolite and ash-flow tuffs*

WINTERLAND FORMATION

D.W *Red to brown, crystal and crystal lithic tuffs; associated porphyritic, pink granite*

GRAND BEACH COMPLEX

D.GB *Variegated felsic tuff, agglomerate and epiclastic breccia; minor pink and orange rhyolite porphyry and aphyric rhyolite*

FAMINE BACK COVE FORMATION

D.F *Arkosic/lithic sandstone*

unconformity

GANDER ZONE

SD.g Mainly massive, medium to coarse grained, feldspar porphyritic or megacrystic biotite granite

OO.E EASTERN MEELPAEG COMPLEX: *Unseparated, foliated, medium to coarse grained equigranular to porphyritic biotite-hornblende granitoids, granodiorite, tonalite, diorite, gabbro and associated felsic dykes. Includes minor sedimentary rocks. May include rocks equivalent to OO.g*

OO.g *Mainly foliated, feldspar megacrystic to coarse grained porphyritic and equigranular biotite granite and granodiorite*

GANDER GROUP

SQUARE POND GNEISS

CO.SP *Grey, fine grained psammitic and semipelitic paragneiss and schist; locally migmatitic. Graditional contact with Hare Bay Gneiss along a migmatite front*

HARE BAY GNEISS

CO.HB *Fine to medium grained, crutely layered tonalitic migmatite with amphibolite and paragneiss inclusions; derived from Square Pond Gneiss*

YOUNGS COVE GROUP

CHAMBERLAINS BROOK FORMATION

Є.YCB *Thin to medium-bedded, dark gray, micaceous quartzite and slate; black shale containing beds and lenses of gray limestone*

RANDOM FORMATION

Є.YR *Medium to coarse grained, cross-bedded, white to gray, quartzitic sandstone and quartzite; interbedded green, gray and red, micaceous siltstone and sandstone*

CHAPEL ISLAND FORMATION

NЄ.YCI *Gray, micaceous siltstone; includes minor siltstone, pink, quartzitic arkose, gray, micaceous sandstone, shale-pebble conglomerate; rare gray limestone lenses and pink limestone beds*

N.CIJ CROSS HILLS INTRUSIVE SUITE: *Medium grained hornblende-biotite granodiorite; N.CIJm - Medium grained, biotite-hornblende granite, granodiorite and gabbro; diabase; red-brown, microlitic, peralkaline granite*

LONG HARBOUR GROUP

RENCONTRE FORMATION

N.LHR *Purple and green, cross-bedded sandstone and micaceous sandstone; purple to maroon, pebble, cobble and boulder conglomerate; pink to buff, quartzitic sandstone; red pebble conglomerate and shale; gray and black shale, argillite and sandstone; minor gray limestone*

MOORING COVE FORMATION

N.LHM *Red to purple, massive and flow-banded rhyolite; ash-flow tuffs and agglomerate; epiclastic breccia to massive basaltic flows; purple and red cross-bedded sandstone; gray slate and sandstone*

ANDERSONS COVE FORMATION

N.LHA *Gray, green and minor red argillite, siltstone, shale and sandstone; fine to coarse grained sandstone and conglomerate; thin mafic flows and sills*

ENGLISH HARBOUR EAST FORMATION

N.LHE *Green, pink and purple rhyolite flows, ash-flow tuffs, breccias and agglomerates; volcanogenic mudstone, sandstone and conglomerate; purple, green and black, amygdaloidal and massive basalt flows*

BELLE BAY FORMATION

N.LHBa *N.LHBa - Pink to buff and gray rhyolite flows and associated felsic pyroclastic and epiclastic rocks*

N.LHBb *Purple to green and black basalt and andesite; mafic dykes and sills*

SNOOKS TOLT FORMATION

N.LHST *Welded, ash-flow tuff and associated tuffs, breccias and agglomerates; vesicular and massive mafic flows; waterlain tuffs and epiclastic sediments*

SOUTHERN HILLS FORMATION

N.LHS *Welded and unwelded ash-flow tuffs; rhyolite flows, tuffs, breccias and agglomerates; epiclastic volcanic and clastic sedimentary rocks; mafic flows and sills; dark-gray tuffs and associated epiclastic rocks*

GRAND LE PIERRE FORMATION

N.LHG *Green and gray, massive and porphyritic rhyolite flows, ash-flow tuffs and volcanic breccias; minor waterlain tuffs*

N.P *Pink to buff, fine to medium grained, hornblende biotite granite and granodiorite, quartz-feldspar porphyry*

N.m *Medium to coarse grained, green to black diorite and gabbro*

N.gd MOUNT MARGARET GABBRO: *Black and dark green, coarse grained clinopyroxene gabbro*

N.dp DEEPWATER POINT GRANODIORITE: *Pink, buff or gray, medium grained hornblende-biotite granite*

N.CR CAPE ROGER MOUNTAIN GRANITE: *Fine to medium grained, foliated, hornblende - biotite granite and granodiorite; minor gabbro, aplite and diabase*

N.Lgb LOUGHLINS HILL GABBRO: *Dark green and black, coarse grained, hornblende gabbro*

N.Ad ANCHOR DROGUE GRANODIORITE: *Pink to gray, medium grained, equigranular; hornblende - biotite granodiorite and diorite*

N.SC BEAL COVE GABBRO: *Gray to green, medium grained, hornblende - pyroxene gabbro; minor diorite and granodiorite*

MARYSTOWN GROUP

N.MAB *Gray and green, feldspathic litharenite, conglomerate, sandstone and siltstone; conglomerate, sandstone, siltstone and shale; minor silicic and mafic tuffs*

N.MAa *Rhyolitic ash-flow tuffs, flows and breccias; associated epiclastic rocks; minor unseparated mafic flows and tuffs; sericitic and chloritic schists; N.MAap - Rhyolite porphyry*

N.MAb *Basaltic flows, tuffs and breccias, plagiophyric sills and related hypabyssal rocks*

HARBOUR MT GOD POINT FORMATION

N.MAgt N.MAHa - *Ignimbrite; quartz-feldspar porphyry and breccias; N.MAHb - Mafic volcanic breccia and conglomerate; N.MAHbv - Very coarse-grained heterolithic volcanic breccia; minor rhyolite breccia (may include rocks of Devonian age)*

BURIN GROUP (760 Ma or earlier)

N.BW WANDSWORTH GABBRO: *Black to green, medium to coarse grained, equigranular gabbro; equigranular quartz diorite, granodiorite and tonalite*

N.Bm *Gray to green volcanogenic sandstone, siltstone and conglomerate; minor basaltic tuffs, flows and sills; red shale, argillite and rare limestone*

N.Bb *Green, gray and brown, pillow basalt, basaltic tuff, agglomerate and breccia; minor tuffaceous siltstone; massive limestone and limestone breccia*

AVALON ZONE

D.m *Fine to medium grained diorite, gabbro and diabase (Devonian); Devonian diorite, gabbro and diabase dykes in the Cape St. Mary's area*

D.SL ST. LAWRENCE GRANITE: *Pink to red, medium to fine grained or aphanitic, equigranular; miarolitic; massive riebeckite aegirine granite; quartz feldspar porphyry*

D.BE BERRY HILLS GRANITE: *Pink, medium grained equigranular; biotite granite; minor aplite*

IONA ISLANDS INTRUSIVE SUITE

D.Ig *Reddish-pink, medium grained granite and granite dykes and sills, locally containing abundant gabbro inclusions*

D.Im *Gray, medium grained diorite, gabbro and olivine gabbro*

RAGGED ISLANDS INTRUSIVE SUITE

D.Rg *Pink, medium grained biotite granite*

D.Rgd *Buff to gray, medium grained granodiorite*

D.Rd *Medium grained quartz diorite*

D.S SALT THE MAID GRANITE: *Pink to orange and gray, medium grained alaskite, granite, granodiorite and diorite*

D.BH BAR HAVEN GRANITE: *Pink, buff and gray, medium grained biotite granite and granodiorite; gray to green, medium to fine grained diorite and diabase*

RED ISLAND GRANITE

D.Rg *Pink, fine to medium grained, equigranular biotite granite and buff granodiorite*

D.Rd *Black to dark-gray, fine to medium grained diorite and gabbro*

D.TN TERRA NOVA GRANITE: *Massive, medium to coarse grained, pink to red microcline - biotite granite*

D.Cg CLARENVILLE GRANITE: *Pink to red, medium grained biotite granite; aclamellite*

S.m *Diabase, diorite and gabbro sills*

WABANA GROUP

O.W Undivided: *Dark shale and siltstone; oolitic, reddish jasper-ironstone; phosphatic and pyritic oolitic ironstone; graptolitic shale and minor siltstone and sandstone*

BELL ISLAND GROUP

O.Bu Upper: *Oolitic, reddish - brown ironstone; interbedded, iron sandstone and shale; siltstone*

RECKANS FORMATION

O.BR *Gray to white orthoquartzite and minor siltstone*

LITTLE BELL ISLAND FORMATION

O.Bl Lower: *White sandstone interbedded with dark silty shale; dark silty shale and thickly bedded quartzose siltstone*

HARCOURT GROUP

Є.O.H Undivided Harcourt Group

ELLIOTT COVE AND CLARENVILLE FORMATION

Є.O.HE *Gray, green to black, silty, micaceous shale and slate, minor siltstone with limestone concretions*

MANUELS RIVER FORMATION

Є.HM *gray and black shale and lenses of limestone; mafic pillow lava and pyroclastics, including Hay Cove and Chapel Arm members*

ADEYTOWN GROUP

Є.A.U Undivided Adeytown Group

CHAMBERLAINS BROOK FORMATION

Є.AC *Green and red shale or slate and thin limestone beds; Oangarrfenous bed near base; spilitic cherty pillow lava, including Cape Dog and Hopwell Head Members*

BRIGUS FORMATION

Є.AB *Red, pink and green shale or slate and thin limestone beds; basal conglomerate where formation rests directly on Precambrian rocks. In places includes Smith Point Formation*

SMITH POINT FORMATION

Є.AS *Pink massive limestone containing red shale partings and algal structures*

BONAVISTA FORMATION

Є.ABV *Red, green and purple shale or slate and thin limestone beds; local quartz-pebble conglomerate at base. In places includes Smith Point Formation*

S.Sgb SPREAD EAGLE GABBRO (and equivalents): *Diabase and gabbro (may feed Cambrian volcanic rocks)*

DEER END FORMATION

Є.DE *Black shale and slate at base gradational upwards into gray and green shale with siltstone and sandstone interbeds; minor calcarenite and limestone nodules*

Є.u *Undivided lower and middle Cambrian rocks*

Є.sg *Undivided black and gray shale and siltstone containing beds and lenses of gray limestone and sandstone*

Є.P *Undivided red and green shale and slate containing pink nodular limestone beds; pink, red and gray algal limestone*

unconformity

RANDOM FORMATION

Є.R *White orthoquartzite interbedded with green, gray and red arkose and siltstone; local basal conglomerate*

unconformity

N.Cp *Foliated, medium grained biotite granite and granodiorite; locally gradational into quartz-feldspar porphyry*

MUSGRAVETOWN GROUP *(not listed in stratigraphic order)*

N.M *Undivided volcanic and sedimentary rocks. Mainly red sandstone and conglomerate north of Clode Sound; south of Clode Sound includes felsic and mafic lava and pyroclastics and gray and red clastic rocks*

N.Ma *Unseparated red and green, fine to coarse grained, sandstone, conglomerate, siltstone and shale; minor limestone. Includes Deer Harbour Formation in the Bloody Reach - Pitt Sound area*

N.Mag *Mainly gray-green, coarse to fine grained sandstone, siltstone and shale; minor limestone*

N.Ma *Rhyolitic ash-flow tuffs, breccias and flows; massive and flow banded rhyolite; minor tuffaceous sediments; rhyolite porphyry*

N.Mb *Green, purple and red, vesicular to massive, basaltic flow, breccia and agglomerates; gray, green and purple plagioclase porphyry*

N.s *Mainly quartz-rich sandstone*

LOVE COVE GROUP

N.LC *Chloritic and sericitic schist derived from felsic and mafic lavas and pyroclastics, conglomerate, sandstone and shale. May be deformed and metamorphosed equivalent of Musgravetown and Connecting Point groups*

N.Lm LOUL HILLS GRANITE: *Massive, medium grained, pink equigranular, riebeckite - bearing granite*

SWIFT CURRENT GRANITE

N.SC *Pink to gray, massive to foliated medium grained granite to granodiorite; minor diorite and gabbro*

N.SCd *Black to green, medium grained diorite and gabbro*

N.GD GEORGES POND PLUTON: *Massive to foliated, medium grained biotite granite; lesser granodiorite, diorite, gabbro and diabase*

N.PH POWDERHORN DIORITE COMPLEX: *Gray, green and black, fine to medium grained, equigranular diorite, gabbro and diabase; minor pink and gray, fine grained, equigranular granite, granodiorite and aplite*

CONNECTING POINT GROUP

N.CP *Fine to coarse grained, green conglomerate and coarse-grained sandstone*

N.CP *Green, gray and black shale, siliceous siltstone graywacke and sandstone; minor green conglomerate; minor, gray felsic volcanics; numerous mafic dykes and sills*

HOLYROOD INTRUSIVE SUITE (620 +2.2 / -1.7 Ma)

N.Hg *Medium grained, massive, pink to gray granite; minor aplite*

N.Hm *Medium grained, pink, green and gray quartz monzonite, and quartz diorite to gabbro*

SIGNAL HILL GROUP

BAY DE VERDE FORMATION

N.SBV *Old Perlican Member: red and gray, white-weathering sandstone; siltstone and red mudstone*

N.SBVc *Baccalieu Member: red pebble to cobble conglomerate and sandstone; minor mudstone*

N.SBVe *Cooks Cove Member: green to gray sandstone and interbedded siltstone*

N.SBVg *Grates Cove Member: green siltstone and sandstone*

FLAT ROCK COVE FORMATION

N.SFp *Piccos Brook Member: locally derived breccia and red muddy sandstone*

N.SFk *Knobby Hill Member: gray conglomerate and siltstone*

BLACKHEAD FORMATION

N.SB *Red and gray sandstone, siltstone and shale*

N.SBm *Maddox Cove Member: red mudstone and sandstone exhibiting distinctive wavy bedding*

CAPE BALLARD FORMATION

N.SCb *Thickly bedded gray sandstone and quartz-granule conglomerate*

N.SCBa *Gray shale and siltstone, minor purple shale*

FERRYLAND HEAD FORMATION

N.SFH *Thin to medium bedded, gray sandstone; minor conglomerate*

N.SFHr *High Rocks Member: red, wavy bedded sandstone and shale*

CUCKOLD FORMATION

N.SC *Red, pebble to cobble conglomerate and sandstone*

QUID VIDI FORMATION

N.SQ *Red and green sandstone; minor pebble conglomerate and mudstone*

GIBBETT HILL FORMATION

N.SG *Thickly bedded, light-gray sandstone; locally thinly bedded, greenish-gray sandstone, siltstone, tuff and conglomerate*

N.SGt *Minor red sandstone and siltstone*

CAPPAHAYDEN FORMATION

N.SCa *Laminated gray siltstone*

ST. JOHN'S GROUP

RENEWS HEAD FORMATION

N.J *Unseparated rocks belonging to the Renews Head, Fermeuse and Trepassey formations*

N.Jfl *Thin, lenticular bedded, dark-gray sandstone and minor shale*

FERMEUSE FORMATION

N.Jf *Gray to black shale containing thin lenses of buff-weathering argillaceous limestone; mostly light gray, thinly bedded, contorted shale and sandstone near base*

TREPASSEY FORMATION

N.Jt *Medium to thinly bedded, graded, gray sandstone and shale; minor tuffaceous rocks*

WHALESBACK GABBRO (and equivalents)

Fine to coarse grained gabbro

CONCEPTION GROUP

MISTAKEN POINT FORMATION

N.C Unseparated rocks of the Mistaken Point and Drook formations

N.CMP Upper part: red and green tuffaceous siltstone and sandstone. Lower part: medium bedded, gray to pink sandstone and green to purple and red shale; minor thin tuff horizons; fossiliferous near top

BRISCAL FORMATION

N.CB Thickly bedded, coarse grained, gray sandstone, olive to gray argillite, red arkosic sandstone; local units of thinly bedded gray siltstone and shale

DROOK BROOK FORMATION:

N.CD *Green siliceous siltstone and sandstone; silicified tuff*

N.CDc *Clam Cove Member: gray, pebbly siltstone and shale*

N.CDp *Peter's River Member: gray, coarse grained sandstone*

N.CDb *Biscay Member: altered green to purple basalt, locally pillowed*

N.CDe *Cape English Member: gray to pale-red, thickly bedded sandstone*

N.CDt *Torbay Member: red and green, medium to coarse grained, parallel-laminated sandstone, associated with mostly*

N.CDd *Bealine Line Member: volcanogenic mixtite (possible northern equivalent of Gaskiers Formation)*

N.CDb *Broad Cove River Member: thickly bedded chert and sandstone*

GASKIERS FORMATION:

N.CGs *South Point Member: red agglomerate*

N.CG *Gray mixtite (tillite); red mixtite overlain by red mudstone at top*

N.CGt *Gray to red mixtite (correlation with Gaskiers Formation uncertain)*

MALL BAY FORMATION

N.CMB *Green siliceous siltstone, argillite and tuff; thickly bedded quartzose sandstone*

HARBOUR MAIN GROUP (632 +2.2 / -2.0 Ma).

N.Hi *Green to dark-gray, massive to flow-banded and brecciated, rhyolitic intrusive and extrusive rocks*

N.Hsi *Red sandstone, conglomerate, slate; green tuffaceous siltstone and sandstone; includes minor felsic and mafic volcanic rocks*

N.Ha *Pink to gray felsic tuff and agglomerate; pink to red rhyolite and welded tuff; includes minor mafic volcanic and clastic sedimentary rocks*

N.Hb *Green to purple basaltic flows and pyroclastic rocks; includes minor felsic volcanic rocks, clastic sedimentary rocks and gabbro*

Newfoundland Labrador

Department of Environment and Conservation
Department of Natural Resources

Map No. 2d

BEDROCK GEOLOGY LEGEND

Eastern Newfoundland

SYMBOLS

Geological Contact (defined, approximate, assumed, gradational).....

Fault (defined, approximate, assumed).....

Thrust fault (defined, approximate, assumed).....

Fold axis (anticline, syncline with direction of plunge).....

Unconformity (Inferred).....

REFERENCE:

Colman-Sadd, S. P. and Crisby-Whittle, L.V.J.
2005: Partial bedrock geology dataset for the Island of Newfoundland (NTS 2E, 2F, 2L, 2M, 11O, 11P, 12A, 12B, 12G, 12H, 12I, 12P and parts of 1M, 2D). Government of Newfoundland and Labrador, Department of Natural Resources, Geological Survey, Open File NFLD/2816 Version 6.0.

Hill, J. and Kirby, R.
1984: Bonavista, Newfoundland. Government of Newfoundland and Labrador, Department of Mines and Energy, Mineral Development Division, Map 84-021.

King, A.F., Colman-Sadd, S.P. and Hayes, J.P.
1988: Geology of the Avalon Peninsula, Newfoundland (parts of 1K, 1L, 1M, 1N and 2C). Governmentof Newfoundland and Labrador, Department of Mines, Mineral Development Division, Map 88-001.

Meyer, J., Tomlin, S. and Green, R.
1984: Mineral occurrence map, Gander Lake, Newfoundland. Government of Newfoundland and Labrador, Department of Mines and Energy, Mineral Development Division, Map 84-045.

Normore, L.S.
2010: Geology of the Bonavista map area (NTS 2C/11). Newfoundland. In Current Research. Newfoundland and Labrador Department of Natural Resources, Geological Survey, Report 10-1, pages 281-301.

O'Brien, S.J. and King, A.F.
2005: Late Neoproterozoic (Ediacaran) stratigraphy of the Avalon Zone sedimentary rocks, Bonavista Peninsula, Newfoundland. In Current Research. Newfoundland and Labrador Department of Natural Resources, Geological Survey, Report 05-1, pages 101-114.

O'Driscoll, C.F., Stapleton, G.J. and King, D.W.
1995: Mineral occurrence map, Belleoram / St Lawrence, Newfoundland. Government of Newfoundland and Labrador, Department of Natural Resources, Geological Survey, Map 95-016.