

LEGEND

Layered Rocks

POST-ACCRETION OVERLAP ROCKS

QUATERNARY
 Qr: Basic to acid, unconsolidated ash, agglomerate and columnar basalt flows; brown, red and black, distinctly alkaline

MIDDLE JURASSIC - LOWER CRETACEOUS

Graevia Bay
 Gm: Sandstone, conglomerate and shale as submarine turbidite deposits, intertongued with andesitic to basaltic volcanic rocks, metamorphosed to amphibolite facies, locally lignite-saturated grades
 Gm1: Predominantly mafic metasedimentary rocks and lesser undeformed metasedimentary rocks

LOWER TO MIDDLE JURASSIC
 Mj: Metasedimentary rocks and lesser undeformed metasedimentary rocks

Moffat volcanics
 Mv: Basic to acid, andesite and quartz-bearing rhyolite tuff; minor thin volcanic unit stratigraphically underlying Unit JmG in Chatham Sound area

WRANGELL TERRANE

UPPER TRIASSIC

Karmutsen Group
 K: Basalt flows with pillow structure (Egmond on Bonilla Island, west of Bonilla fault; 10 km west of North Strait of Bonilla Island)

TRIASIC (?)
 Tm: Metabasite, mudstone and conglomerate, quartzite and metasedimentary rocks of mafic to felsic composition; metamorphosed to amphibolite facies

PALEOZOIC or MESOZOIC
 P: Metasedimentary, siliceous green, biotite and garnet bearing, well sorted, medium-grained and thickly bedded

UPPER PALEOZOIC (PERMIAN?)

Kameelon unit
 K: Shale, grey, medium to coarse grained, thin to thickly bedded, contains solitary corals and corals columns

LOWER PERMIAN

Kameelon unit
 Pm: Carbonate and laminated metasediments, minor andesite lapilli tuff and breccia
 Pm1: Metahyolite, quartz-sericite schist
 Pm2: Biotite schist, pelite and metatuff with minor thin marble and calc-silicate layers
 Pm3: Mainly meta-andesite, metabasalt and metahyolite, metametasedimentary strata in Baker Inlet
 Pm4: Amphibolite, garnet amphibolite

DEVONIAN to MISSISSIPPIAN
 Dm: Gneiss-pebble conglomerate and garnet-bearing carbonaceous pelite

DEVONIAN

Matheson Channel Formation
 Dm1: Metatuff, white with tan weathering, discontinuous plasticly deformed layers and nodules in units Dm1a and Dm1b
 Dm2: Metahyolite, locally quartz-sericite schist, off-white, pyrite bearing
 Dm3: Metabasite and mafic schist containing rare plagioclase, dark green, intertongued thin marble and narrow hornblende bodies
 Dm4: Meta-sandstone, micaceous siltstone, sandstone and biotite-rich, orange-brown, rusty, oxidized metagreywacke, lesser contorted marble and calc-silicate rich layers; minor narrow, layer-parallel fine-grained dolomite and amphibolite (dms7)
 Dm5: Plutonic-cobble conglomerate interlayers in four metasedimentary rocks of Unit Dm5a

ORDOVICIAN

Porcher Formation
 Op: Andesitic lapilli tuff and breccia in greenish-tan metamorphic facies
 Op1: Dolomite and andesite tuff, tuffaceous sedimentary beds, narrow marble interlayers
 Op2: Volcanic-pebble conglomerate and sandstone
 Op3: Meta-schist as iron formation, minor interlayered felsic metatuff
 Op4: Limestone interbedded with andesitic tuff, andesite breccia with carbonate matrix
 Op5: Pillow basalt and metabasite in amphibolite metamorphic facies
 Op6: Metatuff, grey weathered, with thin, green metatuff interlayers
 Op7: Metahyolite and metabasite, andesite and quartziferous felsic metatuff with magnesian zooids (sample 7) on northeast Pitt Island; quartz-sericite schist
 Op8: Metabasite, mudstone, conglomerate and quartzite, minor thin marble, mafic and felsic volcanic rocks in amphibolite metamorphic facies
 Op9: Quartz-biotite schist and sericite-quartzite, narrow bands of pyritic quartz-sericite schist
 Op10: Meta-schist and andesite, garnet amphibolite and fine-grained metatuff, micro-scale interbeds of metatuff and marble
 Op11: Volcaniclastic granite and greywacke
 Op12: Pelite, calc-schist, marble and quartzite, distinctly laminated mylonite

Intrusive Rocks

SYN- and POST-ACCRETION INTRUSIVE ROCKS

PALEOGENE - EOCENE

LATE CRETACEOUS to PALEOGENE
 Lm: Quartz monzonite
 Lm1: Granite, quartz monzonite, tonalite, granite; generally fresh and with biotite-hornblende, commonly well foliated

LATE CRETACEOUS

Kyocut Suite (ca. 81-87 Ma)
 K1: Biotite-hornblende tonalite
 K2: Biotite-quartz monzonite
 K3: Biotite-hornblende granodiorite

Escalante Suite (ca. 90-95 Ma)
 E1: Tonalite distinguished regionally by abundant prismatic titanite and magmatic epidote, numerous mafic enclaves
 E2: Quartz monzonite
 E3: Hornblende-biotite granodiorite
 E4: Quartz diorite
 E5: Diorite, gneissic metatolite

EARLY to LATE CRETACEOUS

McCauley Suite (ca. 94-115 Ma)
 M1: Locally coarse-grained, gneissic greywacke, medium- to coarse-grained, locally abundant
 M2: Garnet-biotite tonalite; soon to moderately foliated
 M3: Tonalite, locally varied from protomylonitic to mylonitic with relict of anorthoclase, locally with variably flattened mafic enclaves that are difficult to distinguish from those found in adjacent plutons of Unit mKCC1
 M4: Quartz monzonite
 M5: Granodiorite, minor tonalite and diorite, overall homogeneous, coarse grained, weak to strong foliation
 M6: Hornblende-biotite-quartz diorite, minor diorite and granodiorite
 M7: Many foliated diorite cross-cut by non-foliated pegmatite, gabbro, hornblende and diorogabbro
 M8: Mafic orthogneiss with enclaves of metabasite and marble of Unit DmC
 M9: Gabbroic pegmatite

McCauley Suite (ca. 113-123 Ma)
 M10: Granite
 M11: Hornblende and granodiorite, coarse-grained, moderately strained and locally protomylonitic
 M12: Predominantly mafic plutons with broad textural and compositional diversity including foliated diorite, dioritic orthogneiss, coarse-grained minor foliated pegmatite, gabbro, hornblende and diorogabbro
 M13: Gabbro and metagabbro, coarse-grained equigranular and locally banded, foliated metatolite; unit may include younger gabbro and ultrabasic bodies

LATE JURASSIC

Banks Island Suite (ca. 142-157 Ma)
 B1: Foliated tonalite
 B2: Biotite-hornblende-quartz monzonite; white, locally apatite to coarse grained
 B3: Hornblende-biotite granodiorite; medium- to coarse-grained, non- to well-foliated
 B4: Hornblende-biotite-quartz diorite
 B5: Diorite

PRE-ACCRETION INTRUSIVE ROCKS

ALEXANDER TERRANE

EARLY PERMIAN
 Ep: Metasedimentary orthogneiss, with or without kyanite; strongly foliated and banded

DEVONIAN to MISSISSIPPIAN

Svedde Point Suite
 Dm: Amphibolite, diorite
 Dm1: Foliated granodiorite, gabbro, tonalite and diorite with protomylonitic fabric; some phases are small dykes and dykes, local metamorphic gneiss

LATE SILURIAN to EARLY DEVONIAN

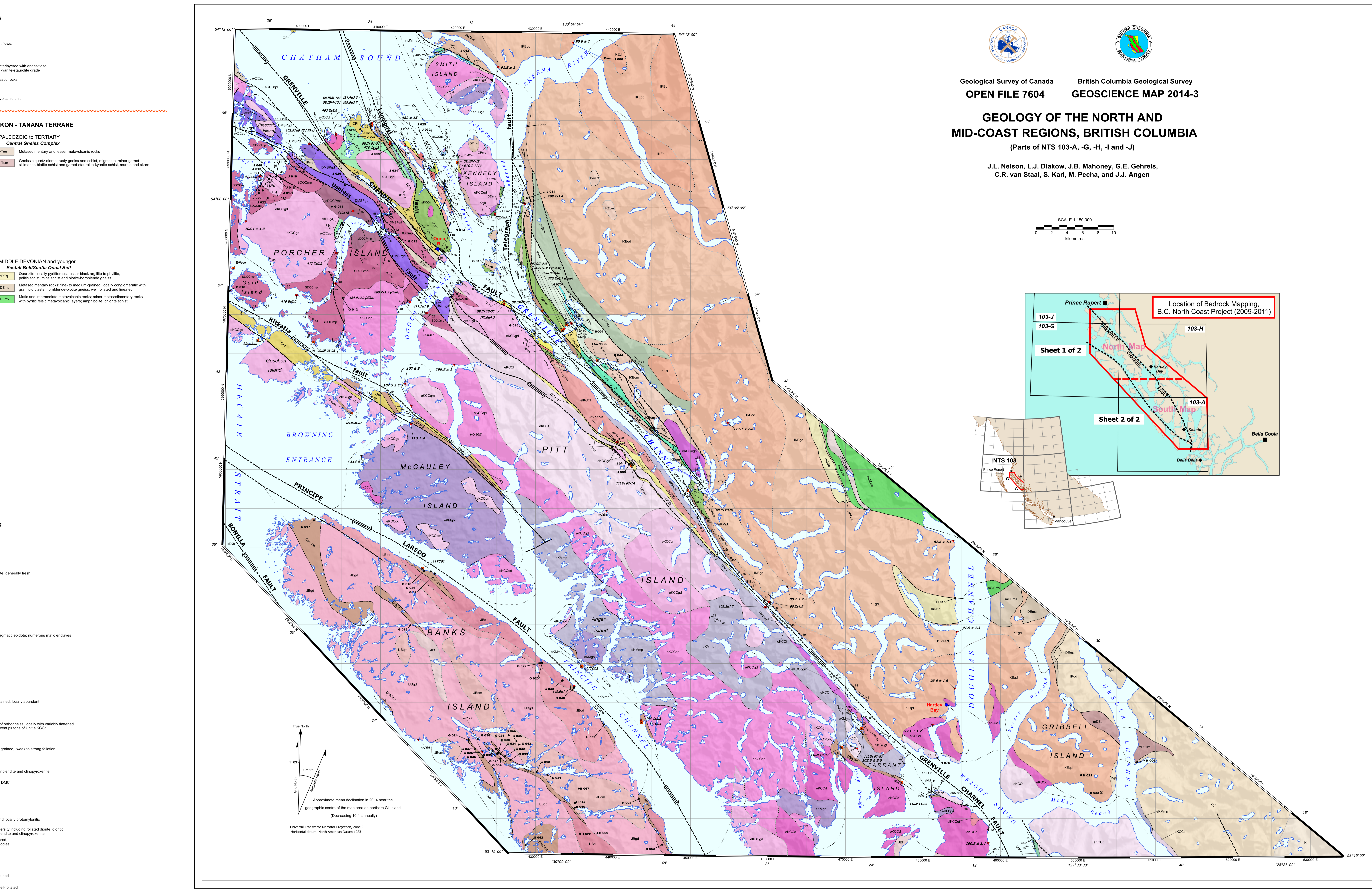
Ogish Channel Intrusive Complex
 O1: Metasedimentary orthogneiss, mafic and felsic, heterogeneous, late syn- to post-orogenic
 O2: Metasedimentary orthogneiss, mafic and felsic, heterogeneous, late syn- to post-orogenic
 O3: Metasedimentary orthogneiss, mafic and felsic, heterogeneous, late syn- to post-orogenic

CAMBRIAN to ORDOVICIAN

Or: Tonalite and diorite; texturally heterogeneous
 O1: Tonalite, mafic gneissic complex composed mainly of metagabbro; lesser metabasalt
 O2: Tonalite, leucocratic, commonly with blue quartz veins
 O3: Primary mafic minerals recrystallized to lower greenschist facies assemblages
 O4: Metasedimentary orthogneiss, mafic and felsic, heterogeneous, late syn- to post-orogenic
 O5: Metasedimentary orthogneiss, mafic and felsic, heterogeneous, late syn- to post-orogenic
 O6: Metasedimentary orthogneiss, mafic and felsic, heterogeneous, late syn- to post-orogenic
 O7: Metasedimentary orthogneiss, mafic and felsic, heterogeneous, late syn- to post-orogenic
 O8: Metasedimentary orthogneiss, mafic and felsic, heterogeneous, late syn- to post-orogenic
 O9: Metasedimentary orthogneiss, mafic and felsic, heterogeneous, late syn- to post-orogenic
 O10: Metasedimentary orthogneiss, mafic and felsic, heterogeneous, late syn- to post-orogenic

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OPEN FILE 7604
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 1:150,000 scale
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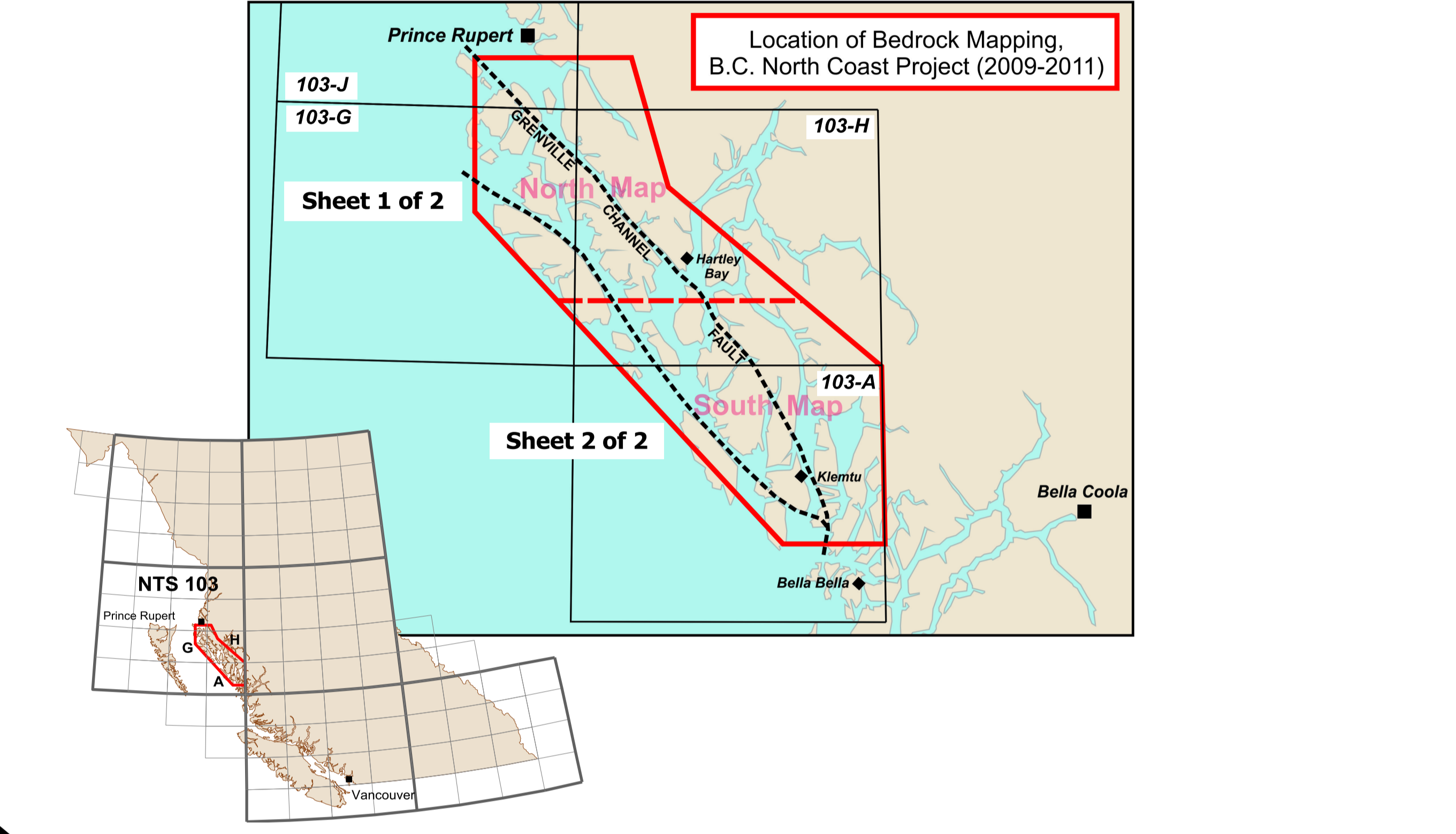


Geological Survey of Canada / British Columbia Geological Survey
OPEN FILE 7604 / GEOSCIENCE MAP 2014-3

GEOLOGY OF THE NORTH AND MID-COAST REGIONS, BRITISH COLUMBIA
 (Parts of NTS 103-A, -G, -H, -I and -J)

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SCALE 1:150,000
 0 2 4 6 8 10
 Kilometres



SYMBOLS

Geological contact (defined, approximate, inferred)
 Dashed line with arrows: Dextral strike-slip fault, arrows show sense of shear (defined, approximate, inferred)
 Dotted line with arrows: Dextral strike-slip fault, arrows show sense of shear (defined, approximate, inferred)
 Solid line: Fault, unknown motion (defined, approximate, inferred)
 Dashed line: Bedding (dips unknown)
 Dotted line: Formation (S1 vertical, S2)
 Dotted line: Unconformity (first phase, second phase)
 Dotted line: U-Pb zircon crystallization date in m.y. (Data from Gehrels et al., 2009)
 Dotted line: U-Pb zircon crystallization date in m.y. (Data from Mahoney et al., in prep.)
 Dotted line: U-Pb zircon crystallization date in m.y. (Data from Mahoney et al., in prep.)
 Dotted line: Mineralized site (located in NTS mapsheet 103F and identified by the 1:50,000 mapsheet letter followed by the BCOS MINFILE number e.g. 2131 = 103J031)
 Dotted line: Gold producer, developed prospect, proposed, showing

YUKON - TANANA TERRANE

MIDDLE to LATE DEVONIAN

Big Falls Orthogneiss
 B1: Tonalite, muscovite-biotite-hornblende gneiss, gneiss, garnet and epidote-bearing mylonite, amphibolite
 B2: Ortho- and paragneiss, schist, migmatite, marble and staurolite

