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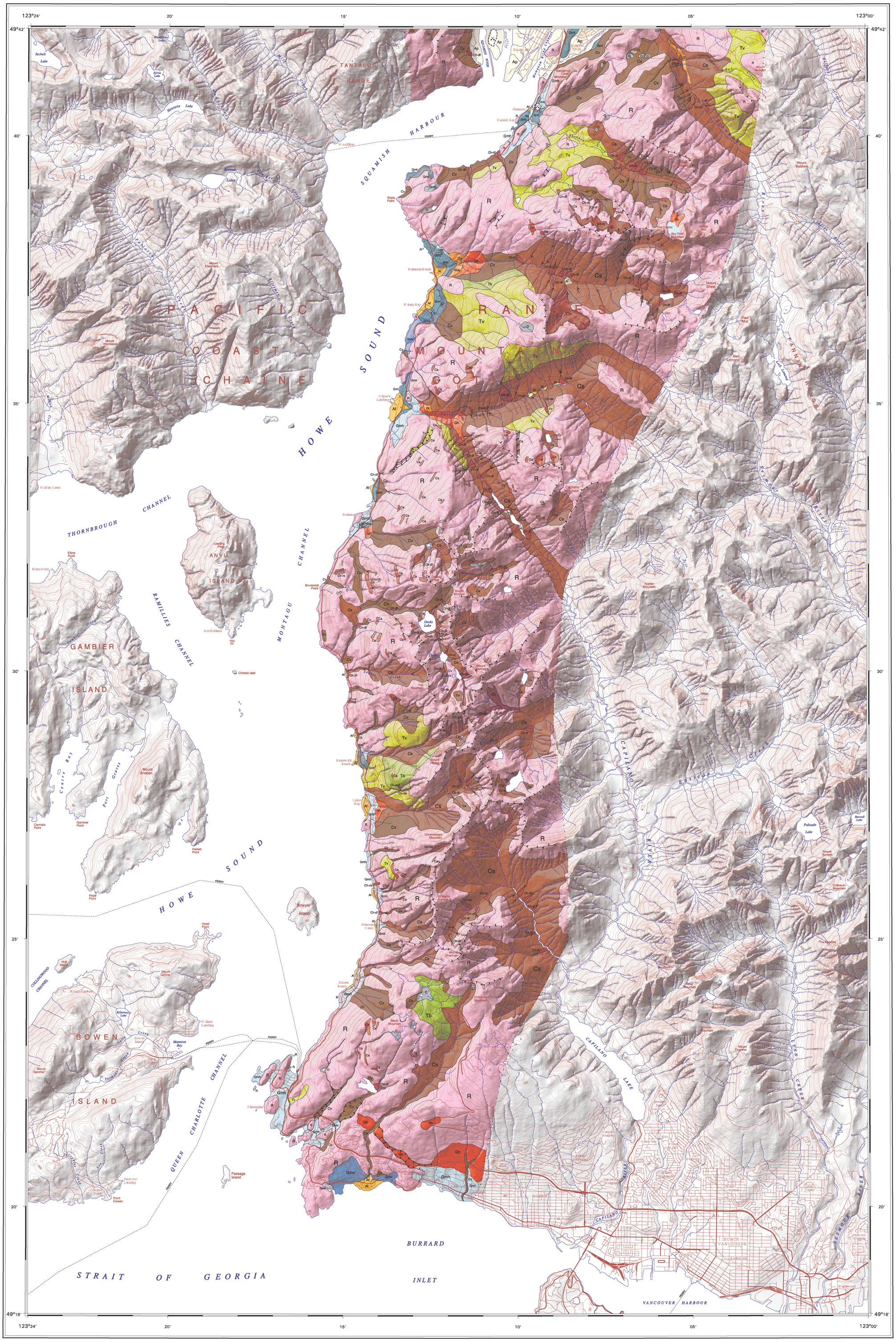
GEOLOGICAL SURVEY OF CANADA | COMMISSION GÉOLOGIQUE DU CANADA



LEGEND

SURFICIAL GEOLOGY
QUATERNARY

Glacier: *A mass of ice formed from compacted snow in an area where snow accumulation exceeds melting and sublimation.*

POST-FRASER GLACIATION

NONGLACIAL ENVIRONMENT

O — ***ORGANIC DEPOSITS:*** *peat and muck; 1 to 10 m thick (typically 2 to 3 m); forming fens and bogs; organic deposits too small to be shown at this scale occur within other units; common within abandoned meltwater channels.*

ALLUVIAL (FLUVIAL) DEPOSITS: *gravel and sand with minor silt and clay, deposited by streams; commonly stratified; generally well sorted except in alluvial fans*

Ap — ***Floodplain sediments:*** *sand and silt, commonly including organic materials and underlain, in many places, by gravel; 1 to 3 m thick; occurring as flat surfaces close to river level; prone to flooding.*

At — ***Terrace sediments:*** *stratified sand and gravel overlain by a veneer of sand and silt; 2 to 10 m thick; forming terraces well above flood level.*

Af — ***Fan sediments:*** *poorly sorted sand and gravel, with diamicton; generally 2 to 15 m thick; forming fans at the toe of slopes.*

COLLUVIAL DEPOSITS: *diamicton and rubble deposited by various mass-wasting processes, ranging from slope wash to rock fall; composition dependent on source materials.*

Ch — ***Landslide debris:*** *mostly unconsolidated sediments, with texture dependent on source materials; generally 1 to 10 m thick, but may exceed 10 m near the toe of large landslides; forming hummocky accumulations on lower slopes and valley floor. Where possible, landslides were identified by type: Ch-df, debris flow deposit; Ch-da, debris avalanche; Ch-ds, debris slide; Ch-rs, rock slide; Ch-ra, rock avalanche; Ch-sa, snow avalanche track.*

Cs — ***Slope colluvium:*** *rock fragments in a matrix of, boulders, gravel, sand, silt, and minor clay; 1 to 10 m thick; formed by bedrock weathering or reworking of unconsolidated deposits on steep (>30°) slopes; commonly gullied.*

Ca — ***Talus:*** *rubble and block accumulations at the bottom of steep (>40°) slopes; 1 to 10 m thick; forming aprons and cones.*

Cv — ***Colluvial veneer:*** *rock fragments in a matrix of boulders, gravel, sand, silt; usually <3 m thick; formed by bedrock weathering or reworking of unconsolidated deposits.*

FRASER GLACIATION (LATE WISCONSINAN)

PROGLACIAL AND GLACIAL ENVIRONMENT

GLACIOMARINE DEPOSITS: *sand and gravel, well to poorly sorted, and commonly stratified; deposited by glacial meltwater; bedding disrupted locally due to melt of glacier ice.*

Gmh — ***Glaciomarine ice-contact deposits:*** *sand and gravel, stratified to massive and commonly faulted; generally >3 m thick; forming hummocky surfaces, may be fossiliferous.*

Gmt — ***Glaciomarine terrace sediments:*** *sand and gravel, stratified to massive; 1 to 10 m thick; forming flat surfaces perched well above alluvial deposits or associated with meltwater channels, may be fossiliferous. Contiguous terraces were numbered by increasing elevations, e.g., Gmt^1, Gmt^2.*

Gmd — ***Proglacial deltaic sediments:*** *sand and gravel with minor silt and clay; on average 10 m thick, but can be >10 m; commonly overlie glaciomarine silt and clay; may form, in part, inclined surfaces. There is an inferred transition between the terrestrial and marine proglacial sediments.*

Gmv — ***Glaciomarine veneer:*** *sand and gravel, well to poorly sorted, and commonly stratified; 1 to 3 m thick; deposited by glacial meltwater; bedding disrupted locally due to melt of associated glacier ice.*

GLACIOFLUVIAL DEPOSITS: *sand and gravel, well to poorly sorted, and commonly stratified; deposited by glacial meltwater; bedding disrupted locally following the melting of supporting ice.*

Gh — ***Ice-contact deposits:*** *sand and gravel, stratified to massive and commonly faulted; generally >3 m thick; forming hummocky surfaces.*

Gt — ***Glaciofluvial terrace sediments:*** *sand and gravel, stratified to massive; 1 to 10 m thick; forming flat surfaces perched well above alluvial deposits or associated with meltwater channels.*

Gv — ***Glaciofluvial veneer:*** *sand and gravel, well to poorly sorted, and commonly stratified; deposited by glacial meltwater; bedding disrupted locally following melting of supporting ice, 1 to 3 m thick.*

GLACIAL ENVIRONMENT

TILL: *Poorly sorted diamicton consisting of pebbles, cobbles, and boulders in a sandy to clayey matrix, directly deposited by glaciers; includes colluvium (reworked till) on steep slopes, and small units of glaciofluvial sediments, especially in valley bottoms and near the mouths and banks of meltwater channels; till surface is commonly rilled on steep slopes.*

Tb — ***Till blanket:*** *continuous till cover with few bedrock outcrops; 1 to 3 m thick on average; conforming to and may be locally obscuring morphology of underlying units.*

Tv — ***Till veneer:*** *discontinuous till cover with abundant bedrock outcrops; 1 m thick on average; reflecting topography of underlying bedrock.*

PRE-QUATERNARY

R — ***BEDROCK:*** *sedimentary, low-grade metamorphic, volcanic, and intrusive rocks of Jurassic to Quaternary age; including, in places, till veneer, drift, and colluvium.*

Geological boundary (defined, inferred)

Limit of mapping

Escarpment

Large meltwater channel

Small meltwater channel

Sand and gravel pit (large, small)

Travel directions of landslides, mainly debris flows and snow avalanches

Crest

Fossil Ⓕ

ACKNOWLEDGEMENTS

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REFERENCES

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92J.033	92J.034	92J.035	92J.036	92J.037	92J.038
92J.023	92J.024	92J.025	92J.026	92J.027	92J.028
		OF5324			
92J.013	92J.014	92J.015	92J.016	92J.017	92J.018
92J.003	92J.004	92J.005	92J.006	92J.007	92J.008
92G.093	92G.094	92G.095	92G.096	92G.097	92G.098
92G.083	92G.084	92G.085	92G.086	92G.087	92G.088
		OF5323			
92G.073	92G.074	92G.075	92G.076	92G.077	92G.078
92G.063	92G.064	92G.065	92G.066	92G.067	92G.068
92G.053	92G.054	92G.055	92G.056	92G.057	92G.058
		OF5322			
92G.043	92G.044	92G.045	92G.046	92G.047	92G.048
92G.033	92G.034	92G.035	92G.036	92G.037	92G.038

TERRAIN RESOURCE INFORMATION MANAGEMENT (TRIM) AND INDEX TO ADJOINING GEOLOGICAL SURVEY OF CANADA MAPS

LOCATION MAP

Author: A. Blais-Stevens

Geology by A. Blais-Stevens, 2004–2007

Compilation and interpretation was carried out using British Columbia 1994 colour aerial photography series 30BCC94, at 1:15,000 scale.

Digital cartography by N. Côté, Data Dissemination Division (DDD)

This map was produced from processes that conform to the Scientific and Technical Publishing Services Subdivision (DDD) Quality Management System, registered to the ISO 9001: 2000 standard

OPEN FILE 5322

SURFICIAL GEOLOGY AND LANDSLIDE INVENTORY OF THE LOWER SEA TO SKY CORRIDOR

BRITISH COLUMBIA

Scale 1:50 000/Échelle 1/50 000

kilometres 1 0 1 2 3 4 kilomètres

Universal Transverse Mercator Projection
North American Datum 1983

Projection transverse universelle de Mercator
Système de référence géodésique nord-américain, 1983

Any revisions or additional geological information known to the user would be welcomed by the Geological Survey of Canada

Digital base map from Terrain Resource Information (TRIM), modified by DDD

Shaded relief image prepared by DDD, derived from the digital elevation model, based on TRIM contours elevation data Illumination: azimuth 315°, altitude 45°, vertical factor 1x

Magnetic declination 2008, 18°2' E, decreasing 12.4' annually.

Elevations in metres above mean sea level
Contour interval 20 m

OPEN FILE
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5322
GEOLOGICAL SURVEY OF CANADA
COMMISSION GÉOLOGIQUE DU CANADA
2008

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Recommended citation:
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2008: Surficial geology and landslide inventory of the lower Sea to Sky corridor, British Columbia; Geological Survey of Canada, Open File 5322, scale 1:50 000.

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