

LEGEND

QUATERNARY

POST FRASER GLACIATION

NONGLACIAL ENVIRONMENT

- O** ORGANIC DEPOSITS: Peat and muck; 1 to 10 m thick (typically 2 to 3 m) forming fans and logs; organic deposits too small to be shown at this scale occur within other units; common within abandoned meltwater channels
- Ap** ALLUVIAL (FLUVIAL) DEPOSITS: Gravel and sand with minor silt and clay, deposited by streams; commonly stratified; generally well sorted except in alluvial fans
- At** Floodplain sediments: sand and silt, commonly including organic materials and underlain, in many places, by gravel; 1 to 3 m thick; occurs as flat surfaces close to river level; prone to flooding
- Ad** 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
- Al** Deltaic sediments: stratified sand and gravel underlain by silt and clay; generally 2 to 5 m thick; occur at the mouth of streams entering lakes
- Af** Fan sediments: poorly sorted sand and gravel, with diamicton; generally 2 to 15 m thick; forming fans at the toes of slopes
- Au** Alluvial sediments, undivided: undivided floodplain, terrace, deltaic, and fan sediments

COLLUVIAL DEPOSITS: Diamicton and rubble accumulated from 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 toes of large landslides; forming hummocky accumulations on lower slopes and valley floors; commonly developed in glaciolacustrine sediments
- Cs** Slope colluvium: rock fragments in a matrix of sand, silt, and minor clay; 1 to 5 m thick; formed by reworking of unconsolidated deposits on steep (>40°) slopes; commonly gullied

FRASER GLACIATION (WISCONSINAN)

PROGLACIAL AND GLACIAL ENVIRONMENT

- Lv** GLACIOLACUSTRINE DEPOSITS: Well sorted, stratified sand, silt, and clay deposited in deep water of former glacial lakes; includes sporadic sand and gravel deposited in a nearshore environment; sand, silt, and clay commonly occur as rhythmites with rare debris flow interbeds; outliers are common on adjacent units
- Lv** Glaciolacustrine veneer: deep water deposits of well sorted, stratified sand, silt, and clay overlain, in places, by shallow water deposits of sand and gravel; occurs near limits of former glacial lakes; includes minor till outcrops; 1 to 3 m thick; reflects topography of underlying units
- Gt** 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
- Gt** Glaciolacustrine terrace sediments: sand and gravel, stratified to massive; 1 to 10 m thick; form flat surfaces perched well above alluvial deposits or associated with meltwater channels
- Gb** Glaciolacustrine blanket: sand and gravel, stratified to massive; generally 1 to 5 m thick; sediment cover is continuous but the underlying morphology is visible; commonly located near the mouth of meltwater channels
- Gh** Ice contact deposits: sand and gravel, stratified to massive and commonly faulted; generally greater than 3 m thick; forming hummocky and kettled surfaces

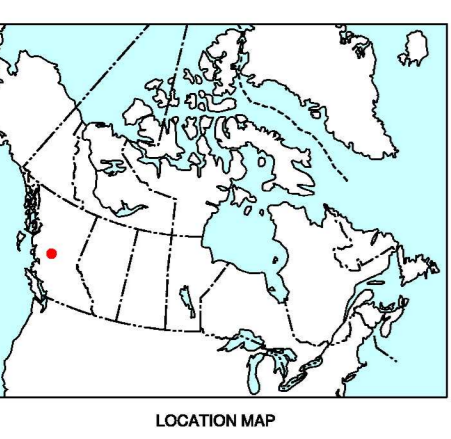
GLACIAL ENVIRONMENT

- Tm** TILL: Pebbles, cobbles, and boulders in a sandy to clayey matrix directly deposited by glaciers; includes colluvium (reworked till) on steep slopes, and small inclusions of glaciolacustrine sediments, especially in valley bottoms and near the mouths and banks of meltwater channels. The till surface is commonly fluted and drumlinized. Suffix -c denotes the presence of abundant meltwater channels (e.g. Tv-c) too small to be mapped individually
- Tm** Thick till, rolling: till cover; greater than 3 m thick; masks the underlying topography; bedrock outcrops are rare
- Tr** Till, ridged: till cover with a lesser amount of sand and gravel; greater than 3 m thick; forms steep-sided to sublevel, straight to sinuous ridges averaging 500 m to 2 km in length; the ridges are composed of till and sand and gravel; organic deposits commonly present in the lower ground between ridges; the ridges are generally perpendicular to ice flow and formed beneath or at the margin of a glacier
- Tb** Till blanket: continuous till cover with few bedrock outcrops; 1 to 3 m thick on average; conforms to and locally obscures topography of underlying units
- Tv** Till veneer: discontinuous till cover with abundant bedrock outcrops; average thickness of 1 m; reflects topography of underlying units, which is predominantly bedrock

PRE-QUATERNARY

- R** BEDROCK: Sedimentary, metamorphic, volcanic, and intrusive rocks of Precambrian to Cenozoic age
- R** Bedrock: outcrop; includes, in places, a thin veneer of till and colluvium

Geological boundary: - - - - -
 Landslide scar (small, large): [Symbol]
 Paleocurrent direction (measured above the till of the last glaciation, and below): [Symbol]
 Meltwater channel, small (flow direction known, unknown): [Symbol]
 Kettle hole (small): [Symbol]
 Esker (direction of flow known, unknown): [Symbol]
 Crevasse filling: [Symbol]
 Lateral moraine, (ornamented on glacier side): [Symbol]
 Glacial fluting: [Symbol]
 Crag and tail: [Symbol]
 Drumlin (direction of flow known, unknown): [Symbol]
 Glacial striae (direction of flow known, unknown): [Symbol]
 Cross striae (1-solidst): [Symbol]
 Bedrock lineation: [Symbol]
 Outcrop: [Symbol]
 Gravel pit: [Symbol]
 Field observation site (with, without sample): [Symbol]
 Quarry: [Symbol]



Geology by A. Plouffe and D.J. Mate, 1996, 1997, 1998
 Co-ordinated by L.C. Struck through the auspices of the Nechako NATMAP Project
 Digital map compilation by L. Robertson, Geological Survey of Canada
 Digital cartography by M. Proke and J.D. Narraway, Earth Sciences Sector Information Division (ESS Info)

OPEN FILE 3686
SURFICIAL GEOLOGY
BINTA LAKE
BRITISH COLUMBIA
 Scale 1:100 000/Echelle 1/100 000
 kilometres 2 0 2 4 6 8 kilometres
 Universal Transverse Mercator Projection
 North American Datum 1983
 * Her Majesty the Queen in Right of Canada, 2001
 Projection transversale universelle de Mercator
 Système de référence géodésique nord-américain, 1983
 * Sa Majesté la Reine du chef du Canada, 2001

Any revisions or additional geological information known to the user would be welcomed by the Geological Survey of Canada
 Digital base map from data compiled by Geomatics Canada, modified by ESS Info
 Mean magnetic declination 2001, 22°19' E, decreasing 8.4' annually. Readings vary from 22°6' E in the SE corner to 22°32' E in the NW corner of the map
 Elevations in feet above mean sea level

93 MNE	93 NNW	93 NNE	93 ONW
93 MSE	93 NSW	93 NSE	93 OSW
OF 3071	OF 2842		
93 LNE	93 LNW	93 LNE	93 LNW
OF 3183	OF 2846		
93 LSE	93 LSW	93 LSE	93 LSW
OF 3184	OF 3182		
93 ENE	93 ENW	93 ENE	93 ENW
OF 3888	OF 3620		

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3686
 GEOLOGICAL SURVEY OF CANADA
 COMMISSION GÉOLOGIQUE DU CANADA
 OTTAWA
 06/2001

Note: This open file supersedes open file 3640

NATIONAL TOPOGRAPHIC SYSTEM REFERENCE AND INDEX TO ADDING GEOLOGICAL SURVEY OF CANADA MAPS

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 2001: Surficial geology, Binta Lake, British Columbia; Geological Survey of Canada, Open File 3686, scale 1:100 000.

