

#### DESCRIPTIVE NOTES

The Colleymount map area is underlain mainly by glacial sediments. Large areas of continuous bedrock outcrop (R) are relatively uncommon, but exposures can be found along the shores of Francois Lake, in high ground of the Goosy Lake and Allin Creek areas, on local small-scale erosional remnants that stand above Quaternary sediments (e.g., north shore of Tschigass Lake), and in some stream and road cuts.

Basal tills containing material that was eroded, transported, and deposited by active ice, are the predominant glacial deposit in the map area. These light brown diamictons are matrix supported (day-to-silt-rich), massive, and overconsolidated. Vertical joints and a subhorizontal fissility are locally well developed, imparting a blocky appearance (Figure 2). These basal tills form blankets (>2 m thick; Tb) and veneers (<2 m thick; Tv) that commonly overlie glacially eroded and polished bedrock. Unlike areas to the south and southwest however, streamlined terrain (drumlined or fluted; Ta) is relatively uncommon (cf. Ferby, 2014a). Basal tills are the ideal sample medium for till geochemistry surveys as they are derived from local bedrock sources (Shills 1993; Leveson, 2001). Till samples were collected for geochemical and mineralogical analyses (Ferby, 2011b) and sample locations are included here. The basal till potential map for the study area (Ferby, 2014b) will assist in the design of follow-up exploration projects by identifying areas where basal till is most likely to occur.

Hummocky tills (Th) are exposed along the Parrott Creek valley, and on high ground immediately to the north. These tills consist of passively transported englacial or supraglacial sediments that were deposited during deglaciation, likely after deposition of these glaciofluvial features. Buck Creek was ice-dammed downstream of the western Colleymount mapsheet border. Glaciofluvial fans (Gf) and local terraced gravels (Gf1). A subtle modern-day drainage divide separates Buck Creek from Allin Creek; it is unknown if this divide influenced late-glacial or deglacial systems. For example, meltwater from the Allin Creek valley may have at some point flowed west toward Goosy Lake.

A significant volume of meltwater flowed through this system, as suggested by gravely glaciofluvial ridges and hummocks east of Goosy Lake that are up to 425 m long, 225 m across, and 20 m high. At some point during deglaciation, likely after deposition of these glaciofluvial features, Buck Creek was ice-dammed downstream of the western Colleymount mapsheet border. Glaciofluvial fans (Gf) and local terraced gravels (Gf1). A subtle modern-day drainage divide separates Buck Creek from Allin Creek; it is unknown if this divide influenced late-glacial or deglacial systems. For example, meltwater from the Allin Creek valley may have at some point flowed west toward Goosy Lake.

Glaciofluvial sands and gravels are common along and within late-glacial to deglacial drainage systems of the Colleymount map area. The Allin Creek-Buck Creek system is the largest, extending beyond the east and west map sheet borders, and was fed by north- and south-draining tributaries. The eastern part of the system consists of outwash blankets (>2 m thick; Gfb), hummocky terrain (Gfbh) and local terraced gravels (Gf1). A subtle modern-day drainage divide separates Buck Creek from Allin Creek; it is unknown if this divide influenced late-glacial or deglacial systems. For example, meltwater from the Allin Creek valley may have at some point flowed west toward Goosy Lake.

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The idea of an ice dome inland of the Coast Mountains is not new (e.g., Dawson, 1891; Ken, 1934; Fulton, 1967; Tipper, 1971a, b, 1994), although the timing has remained unclear. Building on work by Stumpf et al. (2000), Ferby and Leveson (2011a, b, 2007) found evidence of ice-flow reversal in the Huckleberry mine and Tahisa Lake-Ootsa Lake areas during the Late Wisconsin glacial maximum. Accordingly, during the onset of deglaciation, ice flowed east toward central British Columbia from an ice divide spreading radially from accumulation centres in the Coast Mountains. Sometime during the glacial maximum however, this ice divide migrated into central British Columbia resulting in an ice-flow reversal. Glaciers then flowed west across parts of the western Nechako Plateau, over the Coast Mountains and toward the Pacific Ocean. Eastward ice flow resumed once the ice divide migrated back across the axis of the Coast Mountains, and continued until the end of the Late Wisconsin glaciation.

Ice-flow data presented here (from Ferby, 2010 and Ferby et al., 2013) indicate the same sequence of ice-flow events in the Colleymount map area, supporting the idea of an ice dome moving into the interior of British Columbia during the Late Wisconsin. Two predominant ice-flow directions are expressed in the study area, 062° to 104° and 252° to 288°. Ice-flow data from 20 unweathered bedrock exposures on the lower flanks of hillslopes indicate flow toward the east. Features indicating westward flow outcrop at both high (southeast of Equity Silver mineral occurrence at 1400 m, locality 1; Figure 3) and low (near southeast shore of Goosy Lake at 944 m, locality 2; Figure 4) elevations. The density of glacially streamlined landforms in the map area is lower than in neighbouring areas (cf. Ferby, 2014a). Most of these landforms occur in the southwest corner of the map area and indicate flow toward the east-northeast.

During deglaciation, elevated areas became ice free while stagnant ice remained in valley bottoms (see Fulton, 1967, 1991), as suggested by eskers and hummocky terrain north of Fox and Parrott creeks and a lack of recessional moraines. Glaciofluvial fans with eskers west of Maxan Creek likely formed at the transition between valleys occupied by ice and ice-free hills.

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#### REFERENCES

- BC Ministry of Environment, Lands, and Parks, 1972. Soils and surficial geology of the Colleymount map area. BC Ministry of Environment, Lands, and Parks, 1:50 000 scale.
- Clague, J.J., 1984. Quaternary geology and geomorphology. Smithers-Terrace-Prince Rupert Area, British Columbia. Geological Survey of Canada, Memoir 413, 71 p.
- Dawson, G.M., 1891. On the later physiographical geology of the Rocky Mountain region in Canada, with special reference to changes in elevation and to the history of the glacial period. Royal Society of Canada, Transactions, Volume 9, pp. 3-74.
- Ferby, T., 2010a. Quaternary geology and till geochemistry of the Nadina River map area (NTS 093E/15), west-central British Columbia. In: Geological Fieldwork 2009, British Columbia Ministry of Energy, Mines, and Petroleum Resources, British Columbia Geological Survey, Paper 2010-1, pp. 43-54.
- Ferby, T., 2010b. Till Geochemistry of the Nadina River map area (093E/15), west-central British Columbia. British Columbia Ministry of Energy, Mines, and Petroleum Resources, British Columbia Geological Survey, Paper 2010-1, pp. 43-54.
- Ferby, T., 2010c. Till Geochemistry of the Nadina River map area (093E/15), west-central British Columbia. British Columbia Ministry of Energy, Mines, and Petroleum Resources, British Columbia Geological Survey, Paper 2010-1, pp. 43-54.
- Ferby, T., 2011a. Quaternary geology and till geochemistry of the Colleymount map area (NTS 093L/01), west-central British Columbia. In: Geological Fieldwork 2010, British Columbia Ministry of Energy, Mines, and Petroleum Resources, British Columbia Geological Survey, Paper 2011-1, pp. 119-128.
- Ferby, T., 2011b. Till Geochemistry of the Colleymount map area (093L/01), west-central British

Columbia. British Columbia Ministry of Energy, Mines, and Petroleum Resources, British Columbia Geological Survey, Open File 2011-6, Geoscience BC, Report 2011-9, 51 p.

Ferby, T., 2014a. Surficial geology of the Nadina River map area (NTS 093E/15), British Columbia. British Columbia Ministry of Energy and Mines, British Columbia Geological Survey, Geoscience Map 2014-01, Geoscience BC, Map 2014-08-01, 1:50 000 scale.

Ferby, T., 2014b. Basal till potential of the Colleymount map area (NTS 093L/01), British Columbia. British Columbia Ministry of Energy and Mines, British Columbia Geological Survey, Open File 2014-04, 1:50 000 scale.

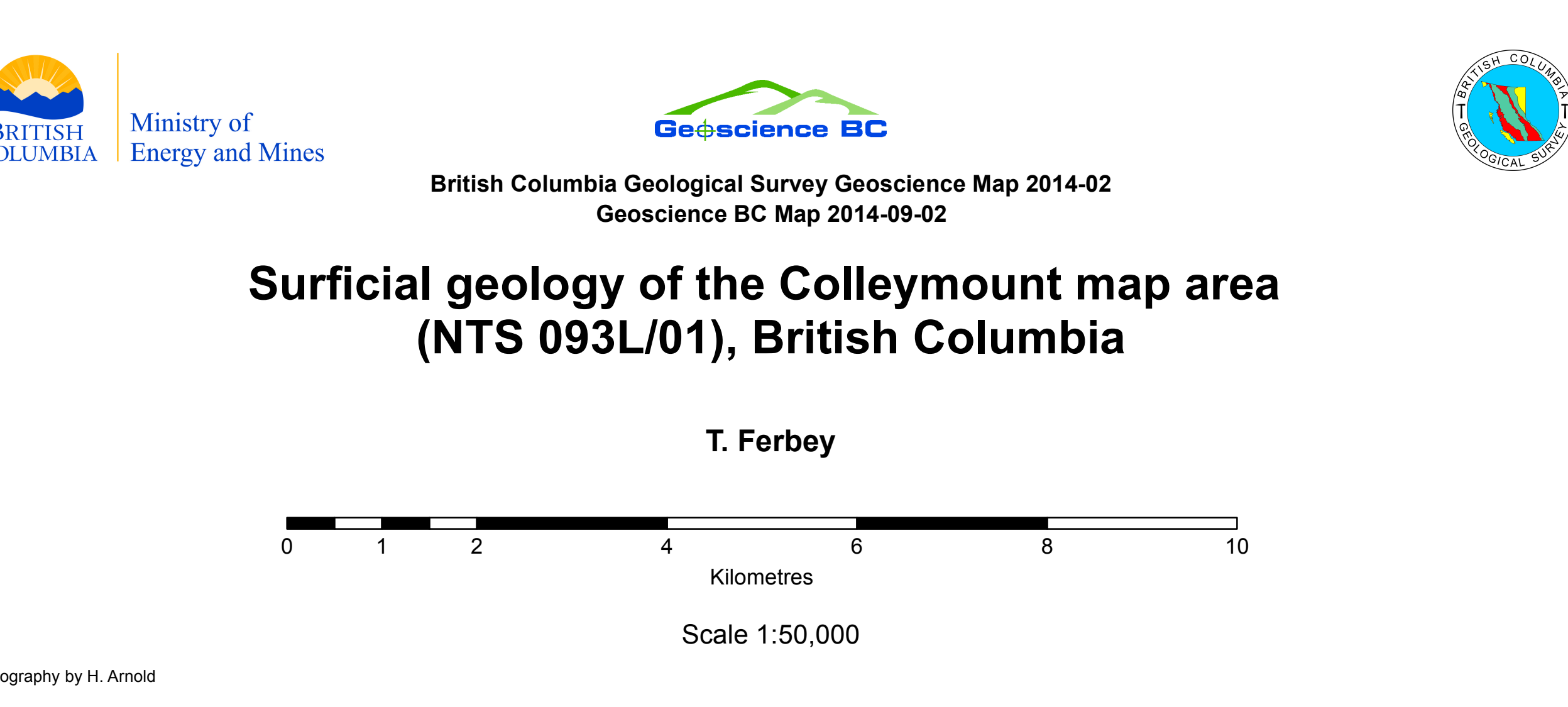
Ferby, T. and Leveson, V.M., 2001a. Quaternary geology and till geochemistry of the Huckleberry mine area. In: Geological Fieldwork 2000, British Columbia Ministry of Energy, Mines, and Petroleum Resources, British Columbia Geological Survey, Paper 2001-1, pp. 397-410.

Ferby, T. and Leveson, V.M., 2001b. Ice flow history of the Tahisa Lake - Ootsa Lake region, British Columbia Ministry of Energy, Mines, and Petroleum Resources, British Columbia Geological Survey, Open File 1995-20, 136 p.

Ferby, T. and Leveson, V.M., 2003. Surficial geology of the Huckleberry mine area, British Columbia Ministry of Energy, Mines, and Petroleum Resources, British Columbia Geological Survey, Open File 1995-20, 136 p.

Ferby, T. and Leveson, V.M., 2007. The influence of ice-flow reversals on the vertical and horizontal distribution of trace elements in tills, Huckleberry mine area, west-central British Columbia. In: Paulsen, R.C. and McMillan, J. (Eds.), Application of Till and Stream Sediment Heavy Mineral and Geochemical Methods to Mineral Exploration in Western and Northern Canada, Geological Association of Canada, Short Course Notes 18, pp. 145-151.

Ferby, T., 2011b. Till Geochemistry of the Colleymount map area (093L/01), west-central British



Note: Where map units are composed of multiple surficial materials, a compound map unit designator is used, separating more extensive materials from less extensive (e.g., for Tb, Th, Tb is more extensive than Th).

**ANTHROPOGENIC DEPOSITS**  
**Ti** **Anthropogenic deposits:** geologic materials modified by human activities; original physical characteristics and surface expression have been significantly altered; related to mine activities at the past producing Equity Silver Cu-Ag-Au mine.

#### QUATERNARY SURFICIAL DEPOSITS

**HOLOCENE**  
**NONGLACIAL ENVIRONMENTS**  
**Organic deposits:** Formed by the accumulation of organic matter in topographic depressions or level areas that are poorly drained.

**Owb** **Bog deposits:** fibric to humic organic matter; may be treeless or have sparse trees; elevated above water table.

**Owf** **Fen deposits:** fibric to humic organic matter; mineral-rich water table persists seasonally at or near surface; generally covered with low shrubs; local sparse trees.

**Colluvial and mass-wasting deposits.** Poorly sorted angular gravels and sandy diamictons; commonly clast supported and can be massive to stratified; product of downslope transport of weathered bedrock and pre-existing Quaternary sediments by gravity; texture dependent on parent material.

**Cv** **Colluvial veneer:** diamictons <2 m of variable thickness; overlies, and forms a discontinuous cover with bedrock or till; occurs mainly on topographic highs and steep valley sides.

**Cb** **Colluvial blanket:** diamictons >2 m of roughly equal thickness; mainly occurs below bedrock hills but can also form on steep, till-covered slopes.

**Cz** **Landslide debris:** diamictons >1 m thick forming hummocky accumulations on lower slopes and valley floors; may exceed 10 m thick near toes of landslides.

**Alluvial deposits.** Gravel, sand, and silt deposited by modern streams and creeks; usually stratified and, with the exception of alluvial fans, moderately well sorted.

**Af** **Alluvial fan:** gravel, sand, silt, and clay >2 m thick deposited as fan-shaped features with a convex upper surface; poorly sorted, massive to stratified with texture dependent on source materials; may contain interbedded debris flow diamictons and buried organic material; occur at the toe of slopes and where streams issue from a narrow valley onto a valley floor; potential source of aggregate.

**Ap** **Alluvial floodplain:** sands and gravels >2 m thick deposited as a level or very gently sloping, planar surface; occur at surface along active and recently active channels; includes point bars, scroll bars, and oxbow lakes and inactive channels; organic rich muds can occur at surface; treeless in active areas with partial shrub or tree cover elsewhere.

**Ab** **Alluvial blanket:** sands and gravels >2 m of roughly equal thickness; treeless in active areas with partial shrub or tree cover elsewhere.

#### LATE WISCONSINAN

**PROGLACIAL AND GLACIAL ENVIRONMENTS**  
**Glaciofluvial deposits.** Sorted and stratified sediments deposited in a glacial lake; may support trees or be sparsely vegetated with shrubs and grasses.

**GLd** **Glaciofluvial delta:** sand and gravel >2 m thick deposited at the mouth of a stream as it entered a former glacial lake; fan-shaped feature with an upper surface that is flat and horizontal to slightly inclined; situated well above modern lakes and streams; can be an aggregate source.

**GLb** **Glaciofluvial blanket:** sand, silt, and clay >2 m of roughly equal thickness; well sorted and locally incised.

**Glaciofluvial deposits.** Sands and gravels deposited by glacial meltwater; can be massive to stratified, sorted to poorly sorted; typically above pre-existing Quaternary sediments, but can also overlie bedrock; can be an aggregate source.

**Gf1** **Glaciofluvial terraces:** sands and gravels of variable thickness that form a planar, horizontal to gently inclined step-like surface; generally unpaired and incised by, and located above, a modern stream or abandoned meltwater course.

**Gfv** **Glaciofluvial veneer:** sand and gravels <2 m of variable thickness.

**Gfb** **Glaciofluvial blanket:** sands and gravels >2 m of roughly equal thickness.

**Gfi** **Glaciofluvial fan:** sands and gravels >2 m thick deposited as fan-shaped features with a convex upper surface; stratified and can be locally interbedded with diamicton; situated well above modern lakes and streams, at the lower ends of meltwater channels and the toe of slopes.

**Gfbh** **Hummocky glaciofluvial:** sands and gravels, typically several metres thick, occurring as steep sided hills (kame) and hollows (kettles) with varied slope aspect forming irregular topography with local relief >1 m; deposited in a deglacial, ice-contact environment; steeply dipping bedding and collapse structures common.

**Gfr** **Ridged glaciofluvial:** sands and gravels occurring as long sinuous ridges (eskers) >2 m in height; massive to stratified; may include silts; deposited by glacial meltwater in contact with glacial ice.

Ferby, T., Arnold, H. and Hickin, A.S., 2013. Ice-flow indicator compilation, British Columbia. British Columbia Ministry of Energy and Mines, British Columbia Geological Survey, Open File 2013-06, 1:160 000 scale.

Fulton, R.J., 1967. Deglaciation studies in Kamloops region, an area of moderate relief, British Columbia. Geological Survey of Canada, Bulletin 154, 36 p.

Fulton, R.J., 1991. A conceptual model for growth and decay of the Cordilleran Ice Sheet. Géographie physique et Quaternaire, Volume 45, pp. 333-339.

Holland, S.S., 1976. Landforms of British Columbia: a physiographic outline. British Columbia Ministry of Energy, Mines, and Petroleum Resources, British Columbia Geological Survey, Bulletin 48, 136 p.

Kerr, F.A., 1934. Glaciation in northern British Columbia. Royal Society of Canada, Transactions, Volume 28, pp. 17-31.

Lefebvre, D.V. and Ray, G.E., 1995. Selected British Columbia mineral deposit profiles volume 1 – metallic and coal. British Columbia Ministry of Energy and Mines, British Columbia Geological Survey, Open File 1995-20, 136 p.

Lefebvre, D.V. and Hoy, T., 1996. Selected British Columbia mineral deposit profiles volume 2 – more metallic deposits. British Columbia Ministry of Energy and Mines, British Columbia Geological Survey, Open File 1996-13, 172p.

Leveson, V.M., 2001. Regional till geochemical surveys in the Canadian Cordillera: sample media, methods and anomaly evaluation. In: McClenaghan, M.B., Bobrowsky, P.T., Hall, G.E.M. and Cook, S.J. (Eds.), Drift Exploration in Glaciated Terrain, The Geological Society, Special Publication No. 185, pp. 45-68.

Leveson, V.M., 2002. Quaternary geology and till geochemistry of the Babine Porphyry Copper Belt, British Columbia (NTS 93 L/8, 16, M/1, 2, 7, 8). British Columbia Ministry of Energy and Mines, British Columbia Geological Survey, Bulletin 110, 278 p.

Mate, D.J. and Leveson, V.M., 2000. Quaternary geology of the Marilla map sheet (NTS 3F/12). In: Geological Fieldwork 1998, British Columbia Ministry of Energy and Mines, British Columbia Geological Survey, Paper 1998-1, 1:50 000 scale.

Mate, D.J. and Leveson, V.M., 2001. Quaternary stratigraphy and history of the Ootsa Lake – Cheslatta River area, Nechako Plateau, central British Columbia. Canadian Journal of Earth Sciences, 38, pp. 751-765.

Plouffe, A., 1996a. Surficial geology, Cunningham Lake, British Columbia (NTS 93K/NW). Geological Survey of Canada, Open File 3183, 1:100 000 scale.

Plouffe, A., 1996b. Surficial geology, Burns Lake, British Columbia (NTS 93K/SW). Geological Survey of Canada, Open File 3184, 1:100 000 scale.

Shills, W., 1993. Geological Survey of Canada's contributions to understanding the composition of glacial sediments. Canadian Journal of Earth Sciences, 30, pp. 333-353.

Singh, N., 1999. Terrain classification map phase 3, 93L 008, 009, 018, 019, 028, 029. British Columbia Ministry of Forests, scale 1:20 000.

Stumpf, A.J., Broder, B.E. and Leveson, V.M., 2000. Multiphase flow of the Late Wisconsinan Cordilleran Ice Sheet in western Canada. Geological Society of America Bulletin, 112, pp. 1850-1863.

Tipper, H.W., 1971a. Glacial Geomorphology and Pleistocene History of Central British Columbia. Geological Survey of Canada, Bulletin 196, 85 p.

Tipper, H.W., 1971b. Multiple glaciation in central British Columbia. Canadian Journal of Earth Sciences, 8, pp. 743-752.

Tipper, H.W., 1994. Preliminary interpretations of glacial and geomorphic features of Smithers map area (93L), British Columbia. Geological Survey of Canada, Open File 2637, 7 p.

**Till deposits.** Unsorted to poorly sorted diamictons deposited by a glacier; matrix and clast texture dependent on parent material and mechanism of transport and deposition; stratification and degree of consolidation also dependent on transport and depositional processes.

**Tv** **Till veneer:** silt- and clay-rich diamicton <2 m of variable thickness; overconsolidated, typically massive and matrix supported; subglacially eroded; transported and deposited by active glaciers; often forms a transitional zone between thicker tills in valleys and on valley sides and bedrock above; can include discontinuous areas of colluvial veneer and bedrock; ideal sample medium for till geochemistry and mineralogical surveys.

**Tb** **Till blanket:** silt- and clay-rich diamicton >2 m of roughly equal thickness; overconsolidated, typically massive and matrix supported; subglacially eroded; transported and deposited by active glaciers; bedrock exposures are rare in areas of thick till; ideal sample medium for till geochemistry and mineralogical surveys.

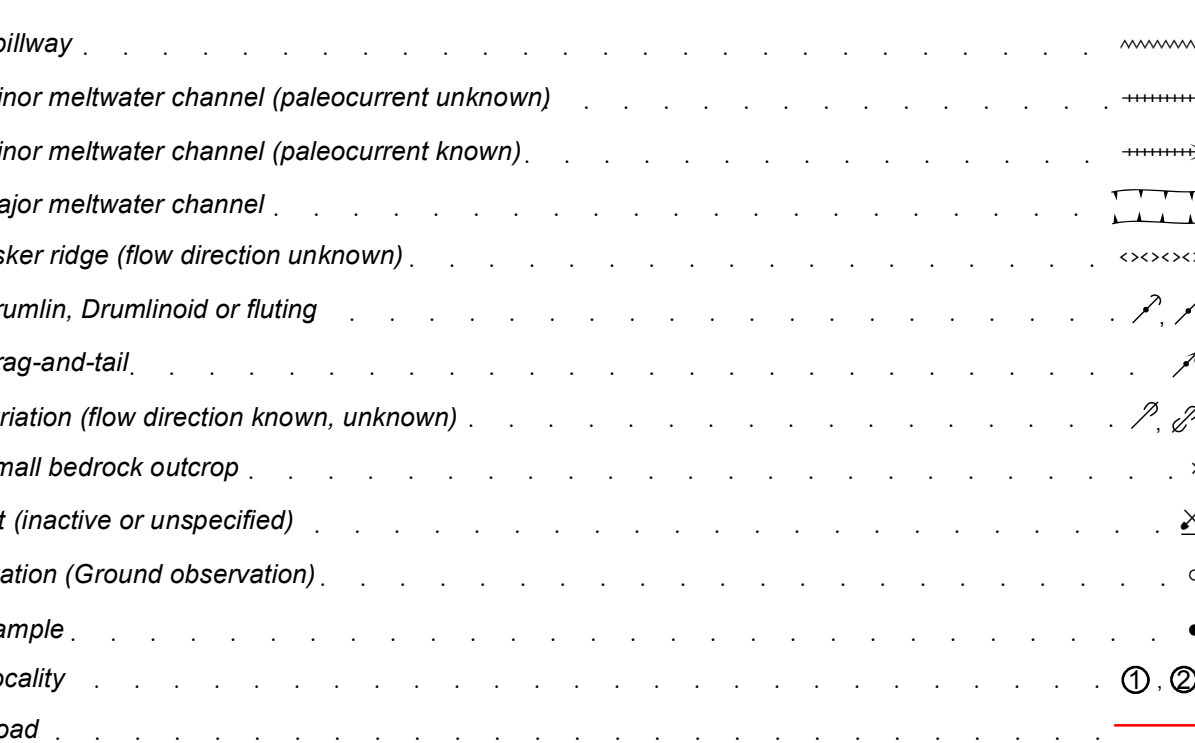
**Th** **Hummocky till:** sand-rich diamicton, typically several metres thick, occurring as steep sided hills and hollows with varied slope aspect forming irregular topography with local relief >1 m; composed of ablation (englacial and supraglacial) tills deposited passively by melt out of stagnant ice during deglaciation; less consolidated than basal tills and have a higher percentage of gravel-sized material; may interfinger with glaciofluvial sands and gravels; overlie older glacial sediments and windows through it can expose underlying basal till; not generally sampled in till geochemical or mineralogical surveys.

**Ts** **Streamlined till:** silt- and clay-rich diamictons that have been subglacially streamlined forming drumlins and flutes; streamlined landforms are typically <600 m long but can exceed 1.5 km; ideal sample medium for till geochemistry and mineralogical surveys.

#### PRE-QUATERNARY

**Bedrock.** Commonly exposed in high ground, including Mount Parrott and Colley, are basalts to andesites of the Buck Creek and Goosy Lake formations (Eocene). Bulkier suite felsic to intermediate intrusives (Late Cretaceous) can host porphyry Cu-Mo mineralization in the region and are exposed on north shore of Tschigass Lake; younger syenite and gabbro belonging to the Goosy Plutonic suite (Paleocene to Eocene), and granites to granodiorites belonging to the Nanka Plutonic suite, are exposed near the Equity Silver mine site where they are host Cu-Ag-Au mineralization; additional bedrock exposures can be found in road and stream cuts and in areas mapped as till veneer.

**R** **Bedrock:** bedrock outcrop; may include discontinuous areas of till or colluvial veneer.



#### MINERAL OCCURRENCES

Provincial MINFILE database (Labeled with name and MINFILE number)  
Past Producer  
Prospect  
Showing

| MINFILE NUMBER | NAME           | STATUS        | COMMODITY                               | DEPOSIT TYPE   |
|----------------|----------------|---------------|---|--|
| 093L 001       | EQUITY SILVER  | Past Producer | Silver, Copper, Gold, Antimony, Arsenic | L01-Subvolcanic Cu-Ag-Au (Ae-St)                                   |
| 093L 256       | GAUL, SAM      | Prospect      | Silver, Copper, Zinc                    | L01-Subvolcanic Cu-Ag-Au (Ae-St)                                   |
| 093L 260       | SAM            | Showing       | Silver, Zinc                            | L01-Subvolcanic Cu-Ag-Au (Ae-St), K05-Polyhalite veins Ag-Pb-Zn-Au |
| 093L 261       | LEWES RIVER    | Showing       | Titanium, Nepheline Syenite             | R13-Nepheline syenite  |
| 093L 263       | GOOSY LAKE     | Showing       | Titanium                                | L01-Subvolcanic Cu-Ag-Au (Ae-St), K05-Polyhalite veins Ag-Pb-Zn-Au |
| 093L 293       | ALLIN          | Prospect      | Copper, Silver, Zinc, Lead, Molybdenum  | L01-Subvolcanic Cu-Ag-Au (Ae-St)                                   |
| 093L 313       | DINA           | Showing       | Copper, Silver                          | L01-Subvolcanic Cu-Ag-Au (Ae-St)                                   |
| 093L 330       | ORION, DOE     | Showing       | Silver, Zinc                            | L01-Subvolcanic Cu-Ag-Au (Ae-St)                                   |
| 093L 331       | BENAMY         | Showing       | Silver                                  | L01-Subvolcanic Cu-Ag-Au (Ae-St)                                   |
| 093L 333       | THE GIRLS, TEL | Showing       | Copper, Silver                          | L01-Subvolcanic Cu-Ag-Au (Ae-St)                                   |

\*See Lefebvre and Ray (1995) and Lefebvre and Hoy (1996) for mineral deposit profile codes and definitions.

Leveson, V.M., 2002. Quaternary geology and till geochemistry of the Babine Porphyry Copper Belt, British Columbia (NTS 93 L/8, 16, M/1, 2, 7, 8). British Columbia Ministry of Energy and Mines, British Columbia Geological Survey, Bulletin 110, 278 p.

Mate, D.J. and Leveson, V.M., 2000. Quaternary geology of the Marilla map sheet (NTS 3F/12). In: Geological Fieldwork 1998, British Columbia Ministry of Energy and Mines, British Columbia Geological Survey, Paper 1998-1, 1:50 000 scale.

Mate, D.J. and Leveson, V.M., 2001. Quaternary stratigraphy and history of the Ootsa Lake – Cheslatta River area, Nechako Plateau, central British Columbia. Canadian Journal of Earth Sciences, 38, pp. 751-765.

Plouffe, A., 1996a. Surficial geology, Cunningham Lake, British Columbia (NTS 93K/NW). Geological Survey of Canada, Open File 3183, 1:100 000 scale.

Plouffe, A., 1996b. Surficial geology, Burns Lake, British Columbia (NTS 93K/SW). Geological Survey of Canada, Open File 3184, 1:100 000 scale.

Shills, W., 1993. Geological Survey of Canada's contributions to understanding the composition of glacial sediments. Canadian Journal of Earth Sciences, 30, pp. 333-353.

Singh, N., 1999. Terrain classification map phase 3, 93L 008, 009, 018, 019, 028, 029. British Columbia Ministry of Forests, scale 1:20 000.

Stumpf, A.J., Broder, B.E. and Leveson, V.M., 2000. Multiphase flow of the Late Wisconsinan Cordilleran Ice Sheet in western Canada. Geological Society of America Bulletin, 112, pp. 1850-1863.

Tipper, H.W., 1971a. Glacial Geomorphology and Pleistocene History of Central British Columbia. Geological Survey of Canada, Bulletin 196, 85 p.

Tipper, H.W., 1971b. Multiple glaciation in central British Columbia. Canadian Journal of Earth Sciences, 8, pp. 743-752.

Tipper, H.W., 1994. Preliminary interpretations of glacial and geomorphic features of Smithers map area (93L), British Columbia. Geological Survey of Canada, Open File 2637, 7 p.

