

- LEGEND**
- QUATERNARY**
- POST FRASER GLACIATION**
- NONGLACIAL ENVIRONMENT**
- O** **ORGANIC DEPOSITS:** Peat and muck: 1 to 10 m thick (typically 2 to 3 m) forming lens and bogs; 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
  - Ar** **Deltaic sediments:** stratified sand and gravel underlain by silt and clay; 2 to 5 m thick on average; occur at the mouth of streams entering lakes
  - Au** **Fan sediments:** poorly sorted sand and gravel, with diamicton; 2 to 15 m thick on average; forming fans at the toes of slopes
  - Au** **Alluvial sediments, undivided:** undivided floodplain, terrace, deltaic and fan sediments
  - Ch** **COLLUVIAL DEPOSITS:** Diamicton and rubble accumulated from various mass wasting processes ranging from slope wash to rock fall; composition dependent on source materials
  - Cs** **Landslide debris:** mostly unconsolidated sediments, with texture dependent on source materials; generally 1 to 10 m thick, but may exceed 10 m near the base 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 (WISCONSIAN)**
- PROGLACIAL AND GLACIAL ENVIRONMENT**
- Lv** **GLACIOLACUSTRINE DEPOSITS:** Well sorted, stratified sand, silt, and clay deposited in deep water of former glacial lakes and include sporadic sand and gravel deposited in the nearshore environment; the sand, silt and clay commonly occur as rhythmites with rare debris flow interbeds; outcrops are common on adjacent units; contacts between subunits Lv, Lb, and Lx are gradational
  - Gt** **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
  - Gb** **GLACIOLACUSTRINE BLANKET:** sand and gravel, well to poorly sorted, deposited by glacial meltwater; commonly well to crudely stratified; bedding disrupted locally following the melting of supporting ice
  - Gh** **GLACIOLACUSTRINE TERRACE SEDIMENTS:** sand and gravel, stratified to massive; 1 to 10 m thick; perched 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
  - 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; includes colluvium (reworked till) on steep slopes and small inclusions of glaciolacustrine sediments, especially in valley bottoms and near the mouth and banks of meltwater channels. The till surface is commonly filled and diminished. Suffix -c denotes the presence of abundant meltwater channels (e.g. Tv-c)
  - Tb** **Thick till, rolling:** till cover, greater than 3 m thick; masks the underlying topography; bedrock outcrops are rare
  - 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)** .....  
**Paleocurrent direction (measured above the till of the last glaciation, and below)** .....  
**Meltwater channel, small (flow direction known, unknown)** .....  
**Kettle hole (small)** .....  
**Esker (direction of flow known, unknown)** .....  
**Lateral moraine, (unamented on glacier side)** .....  
**Glacial fluting** .....  
**Crag and tail** .....  
**Drumlin (direction of flow known, unknown)** .....  
**Glacial striae (direction of flow known, unknown)** .....  
**Bedrock lineation** .....  
**Outcrop** .....  
**Gravel pit** .....  
**Field observation site (with, without sample)** .....  
**Field observation site (with, without sample)** .....



Crag and tail (bedrock knob with till on the lee side of the obstruction located SE of Lucas Lake (SE corner of 93 F11). Ice was moving to the northeast, i.e. more or less parallel to the truck and towards the right hand side of the photograph.



Slope failure in till observed along a forestry road, NE of Tatalrose Lake, in the NW corner of 93 F13.

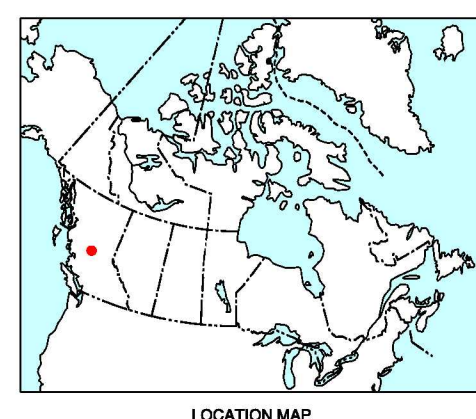


Moraine approximately 10 m high and 1 km in length located W of Getzuni Lake, in the eastern part of 93 F13. The presence of this moraine suggests that ice was retreating towards the valley and that the upper region was the first to be deglaciated.



Mini crag and tail on andesite bedrock located SW of Emmet Lake, near the central southern limit of 93 F11. Ice movement was to the NE, i.e. towards the upper right corner of the photograph.

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Geology by A. Poulffe, 1996, 1997

Co-ordinated by L.C. Struik through the auspices of the Nechako NATMAP Project

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OPEN FILE 3640  
SURFICIAL GEOLOGY  
**BINTA LAKE**  
BRITISH COLUMBIA

Scale 1:100 000/Echelle 1/100 000

Kilomètres 2 0 2 4 6 8 Kilomètres

Universal Transverse Mercator Projection  
Projection transversale universelle de Mercator  
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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 the Geoscience Information Division

Mean magnetic declination 1998, 22°45' E, decreasing 8.5' annually. Readings vary from 22°31' E in the SE corner to 22°58' E in the NW corner of the map

Elevations in feet above mean sea level

93 MNE	93 NNW	93 NNE	93 NNW
93 MSE	93 NSW	93 NSE	93 NSW
OF 3071	OF 2842		
93 LNE	93 LNW	93 LNE	93 LNW
OF 3183	OF 2844		
93 LSE	93 LSW	93 LSE	93 LSW
OF 3184	OF 3182		
93 FNE	93 FNW	93 FNE	93 FNW
OF 3640	OF 3620		

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