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# SURFICIAL GEOLOGY OF THE KOMIE CREEK AREA

NTS 94P/05

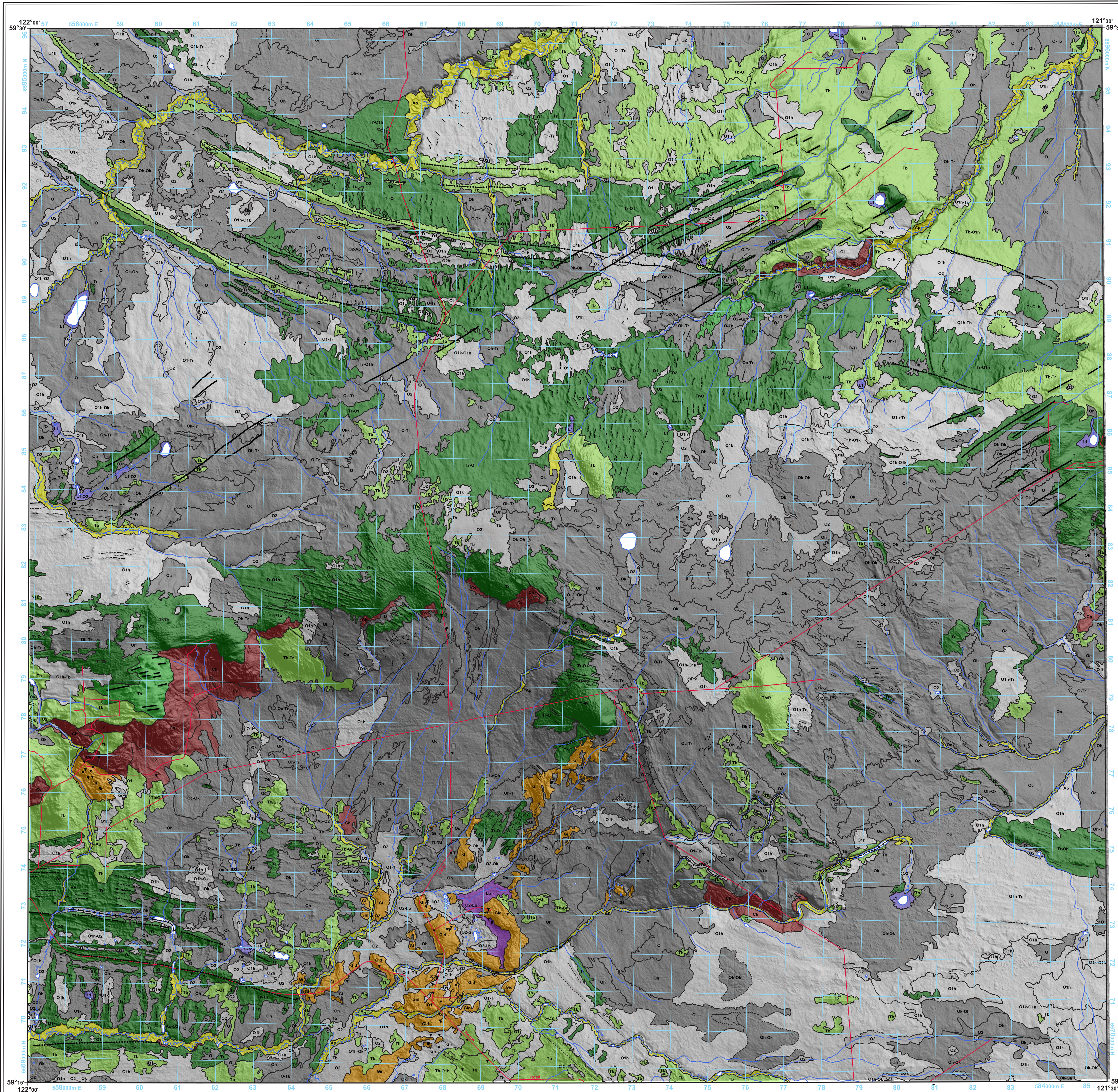
T.E. Demchuk

Scale 1:50 000



Field survey carried out 2003 to 2007

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## SURFICIAL GEOLOGY HOLOCENE SEDIMENTS

**ORGANIC DEPOSITS:** peat and muck; 1 to 3 m thick on average; formed by the accumulation of plant material in various stages of decomposition; generally occurs as flat, wet terrain (swamps and bogs) over poorly drained substrates.

- O1** Bog peat: sphagnum or forest peat formed in an ombrotrophic environment, wet terrain; may be treed or treeless; O1h, hummocky, mounds and plateaus; area may be underlain by ground ice or shallow permafrost conditions; O1t, thermokarst terrain related to melting ground ice.
- O2** Fen peat: peat derived from sedges and partially decayed shrubs in a eutrophic environment; forms relatively open peatlands with a mineral-rich water table that persists seasonally near the surface; generally covered with low shrubs and occasional sparse layer of trees.
- O** Undifferentiated bog and fen deposits; Oh, undifferentiated hummocky bog and fen deposits; area may be underlain by ground ice or shallow permafrost conditions; Ok, undifferentiated bog and fen deposits with thermokarst terrain related to melting of ground ice; Oc, undifferentiated bog and fen deposits cut by numerous subparallel channels on gentle slopes.

**COLLUVIAL DEPOSITS:** mass wasting debris; poorly sorted, massive to stratified debris deposited by direct, gravity-induced movement; composition dependent on source material.

- Ch** Landslide and slump debris: active and inactive landslides; hummocky topography; diamicton, generally 1 to 10 m thick, but may exceed 10 m near the toe of large landslides.
- Cv** Colluvial veneer: thin and discontinuous cover of slumped and/or soliflucted material <1 m thick; overlies bedrock or till.

**ALLUVIAL DEPOSITS:** sorted gravel, sand, minor silt and organic detritus deposited by streams; commonly stratified.

- Ap** Floodplain deposits: sorted gravel, sand, silt and organic detritus >1 m thick; forming active floodplains close to river level with meander channels and scroll marks.

**LACUSTRINE DEPOSITS:** sand, silt and minor clay deposited in a former lake.

- L1** Lacustrine deposits: >1 m thick; generally overlain by organic deposits; exposed by recent fluctuations in lake levels.

## LATE PLEISTOCENE SEDIMENTS

**GLACIOLACUSTRINE DEPOSITS:** fine sand, silt, and clay, with minor debris-flow diamicton; deposited in glacier-dammed lakes in valleys and along the margin of the retreating Laurentide Ice Sheet; usually overlain by organic deposits in lowlands.

- Lb** Glaciolacustrine blanket: >1 m thick.

**GLACIOFLUVIAL DEPOSITS:** well to poorly stratified sand and gravel; minor diamicton; deposited behind, at or in front of the ice margin by glacial meltwater; represents a potential aggregate source.

- Gl** Ice-contact stratified drift: poorly-sorted sand and gravel with minor diamictons; deposited in contact with the retreating glacier; 1 to >20 m thick; G1r, esker ridges; G1d, ice-contact glaciofluvial delta deposits; 1 to >30 m thick, surface marked by kettles.

**MORAINAL DEPOSITS (TILL):** diamicton deposited directly by the Laurentide ice sheet; sandy to clayey matrix with striated cists of various lithologies, including many Canadian Shield, carbonate and sandstone erratics; clast content is typically low (<10 %).

- Tb** Till blanket: >1 m thick, continuous till cover forming undulating topography that locally obscures underlying units.
- Ts** Streamlined and fluted till: >1 m thick, till surface marked by streamlined landforms including flutes and drumlins.
- Tr** Ridged till deposits: >1 m thick, moraines forming a ridged topography.

## PRE-QUATERNARY BEDROCK

(bedrock units are present only in combination with other units)

- R** Sedimentary bedrock: Cretaceous Fort St. John Group shales and Dunvegan Formation sandstone.

**NOTE:** In areas where the surficial cover forms a complex pattern, the area is coloured according to the dominant unit and labelled in descending order of cover (e.g., O-Tb). Where buried aggregate deposits (sand and gravel) - commonly associated with G1 or Gd surficial units are known, or suspected, areas are coloured according to the overlying unit and labelled in the following manner: Lv/Gd. Where bedrock is thought to be shallowly covered by another unit it is in the following manner: Tb/R.



Transverse Mercator Projection (Grid Zone 10)  
North American Datum 1983  
Magnetic declination 2009, 21°14' E, decreasing 2' annually  
Digital base map provided by Natural Resources Canada, National Topographic System (1:50 000 scale)  
Digital elevation model  
Illumination: azimuth 045°, altitude 45°, vertical exaggeration 10x

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