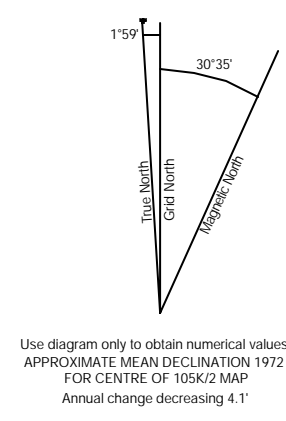
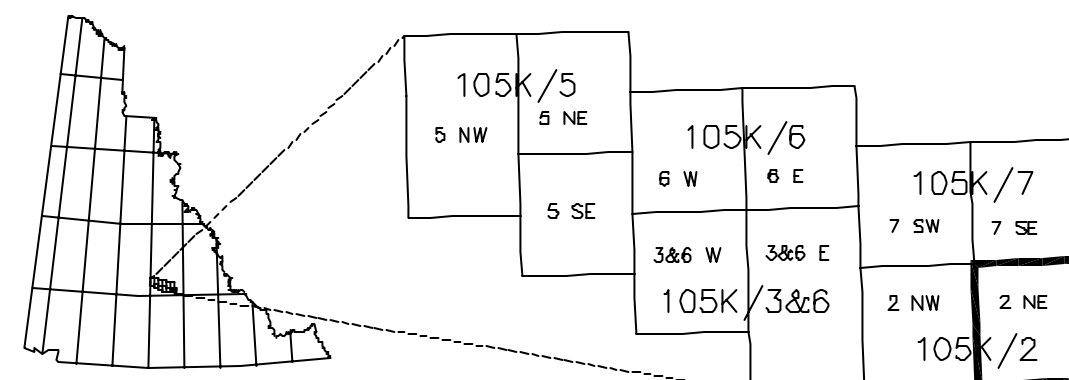


**SURFICIAL GEOLOGY AND TILL GEOCHEMISTRY OF SWIM LAKES**  
(105K/2 NE), CENTRAL YUKON  
SCALE 1:25 000



Topographic base produced by  
SURVEYS AND MAPPING BRANCH,  
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AND RESOURCES.  
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ONE THOUSAND METRE  
Universal Transverse Mercator Grid  
ZONE 8

CONTOUR INTERVAL 100 FEET  
Elevations in feet above mean sea level  
North American Datum 1983  
Transverse Mercator Projection



**LEGEND**

**QUATERNARY**

**HOLOCENE**

**ORGANIC DEPOSITS:** peat and woody material occurring as a flat to gently sloping plain; overlie lacustrine, till, or poorly drained glaciofluvial and alluvial deposits but rarely form a dominant geologic unit. Most common in low inter-lake channels, along lake margins, on alluvial plains and as a veneer (< 1 m thick) in old-growth forests. Permafrost is commonly present within 1 m of the surface. Localized palisade development occurs in organic deposits.

**O** - organics: consisting of woody sedge peat, variable thickness. While River ash accumulations are commonly associated with poorly drained peaty areas.

**ALLUVIAL DEPOSITS:** sand, silt and pebbles with minor cobbles deposited in modern drainages. Most alluvial deposits are limited to small intermittent stream channels due to the low terrain.

**Ap** - alluvial plain: silt, sand and pebbles with minor rounded cobbles and boulders occurring as bars, overbank floodplain or low terrace deposits, 0 - 10 m thick; floodplain subject to periodic floods. Small valley alluvial plains may not be mapped at this scale.  
**At** - alluvial fan: coarse sand, pebbles, cobbles and mudflow deposits, up to or > 10 m thick. Appear as vegetated, often peat covered, landforms developed during post-glacial sedimentation.  
**Ax** - complexes of Ap and At undivided. Common when a stream is unconfined and also in narrow valleys where side-entry alluvial fans cannot be differentiated from an alluvial plain.

**PLEISTOCENE AND HOLOCENE (UNDIVIDED)**

**COLLUVIAL DEPOSITS:** diamiction, gravel, shattered bedrock, and lenses of sand and silt derived from bedrock and surficial sediments by physical and chemical weathering processes. Transport of dislodged debris occurs as surface creep or by mass wasting processes. Permafrost and seasonal freeze-thaw processes often initiate and enhance colluviation.

**Cv** - colluvium veneer: conforms to bedrock topography, < 1 m thick.  
**Ca** - colluvium apron: coalescing colluvial fans at the base of a slope, > 1 m thick.

**LATE PLEISTOCENE (WISCONSINAN) - McCONNELL GLACIATION**

**GLACIOFLUVIAL DEPOSITS:** stratified to massive; poorly to well sorted; gravel and sand with minor silt and cobbles; deposited by meltwater originating from glacial ice. Common in inter-lake glacial meltwater channels.

**Gp** - glaciofluvial plain: 3-10 m thick.  
**Gx** - glaciofluvial complex: 1-30 m thick, composed of deposits of outwash, glaciolacustrine and minor till deposited in an ice contact environment. Hummocky topography is associated with this depositional setting.

**GLACIAL DEPOSITS (Ill):** unsorted clay, silt, sand, pebbles and cobbles with minor boulders; deposited by or from glacial ice and occurs as subglacial veneer and blanket deposits. Till overlies most of the map area.

**Tv** - till veneer: conforms to underlying topography, < 1 m thick.

**Tb** - till blanket: gently to moderately sloping plain controlled by bedrock or underlying surficial deposits, > 1 m thick.

**LOWER CAMBRIAN TO CRETACEOUS**

**BEDROCK:** The map area is underlain by metasedimentary rocks of North American affinity, and the Anvil plutonic suite. North American rocks underlie the northwest corner of the map area and consist of the Lower Cambrian Mt. May formation. Late- and post-metamorphic Cretaceous intrusions of the Anvil plutonic suite (Orchay pluton) cut the metamorphic stratigraphy in the remainder of the map area (Jennings and Jilson, 1986).

**R** - bedrock: isolated outcrops on hill-tops, southeast-facing slopes, and crag-and-tail landforms.

**COMBINED MAP UNITS**

The surficial geology unit(s) are shown first followed by the terrain modifiers. Combined surficial geology units are used where, for reasons of scale, two or more deposits cannot be delineated individually. The dominant unit (>50 % of polygon coverage) is shown first and the subordinate units (<50 % of polygon coverage) are shown second and third. A dot separates the surficial units and a dash separates the terrain modifier from the surficial geology.

**TERRAIN MODIFIERS**

**SUB-ARCTIC, ALPINE AND PERIGLACIAL PROCESSES**

**Pf** - permafrost: within 1 m of surface  
**K** - thermokarst  
**S** - solifluction

**FLUVIAL PROCESSES**

**Active** - recently active part of floodplain

**EROSIONAL PROCESSES**

**G** - gullying: areas of rapid erosion

**SYMBOLS**

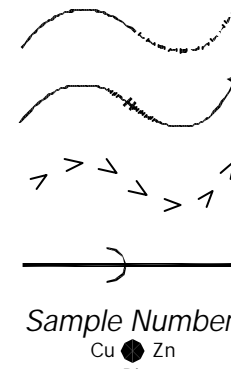
Geological boundary (defined, assumed)

Glacial meltwater channel

Esker

Aligned landform

Till geochemistry sample (ppm)



**REFERENCES**

JENNINGS, D.S. and JILSON, G.A.: 1986, 'Geology and sulphide deposits of Anvil Range, Yukon', In: Mineral Deposits of Northern Cordillera, Proceedings of the Mineral Deposits of Northern Cordillera Symposium, J.A. Morin (ed.), Canadian Institute of Mining and Metallurgy, Special Volume 37, p. 319-361.

**RECOMMENDED CITATION**

BOND, J.D.: 1999, 'Surficial geology map and till geochemistry of Swim Lakes (105K/2 NE), central Yukon (1:25,000 scale)', Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, Open File 1999-19.

Digital cartography and drafting by P.S. Lipovsky, Yukon Geology Program.

Any revisions or additional geological information known to the user would be welcomed by the Yukon Geology Program.  
Copies of this map may be purchased from Geoscience Information and Sales, c/o the Whitehorse Mining Recorder, Indian and Northern Affairs Canada, Room 102-300 Main St., Whitehorse, Yukon, Y1A 2B5, Ph 867-667-3266, Fax 867-667-3267.

Keep this map stored in a dark area to prevent map colours from fading.

This map was released January 2000.

Indian and Northern Affairs Canada  
Exploration and Geological Services Division  
Yukon Region

Open File 1999-19

**SURFICIAL GEOLOGY MAP AND TILL GEOCHEMISTRY OF SWIM LAKES (105K/2 NE), CENTRAL YUKON**

by  
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Yukon Geology Program  
Geoscience Office