

QUATERNARY

HOLOCENE

ORGANIC DEPOSITS : peat and woody material, occurring as a flat to gently sloping plain, overlie lacustrine, till, or poorly drained glacioluvial 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 peat development occurs in organic deposits.

O - organics : consisting of woody sedge peat, variable thickness. While fiber 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 reworked 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.

Ap (active) - alluvial plain : area of Pelly River floodplain that has been recently active.

Af - alluvial fan : coarse sand, pebbles, cobbles and mudflow deposits, up to > 10 m thick. Appear as vegetated, often peat covered, landforms developed during post-glacial sedimentation.

Ax - complexes : of Ap and Af 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 : diamictic, gravel, shatterd 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.

Cz - mass wasting : includes slumping, debris slides and rockfalls. Debris slides in till and colluviated till are most common in the map area.

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 and the Tintina Trench.

Gp - glacioluvial plain : > 3.10 m thick.

Gx - glacioluvial 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 Swim Basin.

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.

Tx - till complex : till blanket or veneer composed of meltout till and minor ice contact glacioluvial deposits.

LOWER CAMBRIAN TO CRETACEOUS

BEDROCK : The map area is underlain by metasedimentary rocks of North American affinity, accreted terrane and the Anvil Plutonic Suite. North American rocks underlie most of the map area and include the Lower Cambrian Mt. Myle formation, the Cambrian to Lower Ordovician Vangorda formation, the Lower Ordovician Mendocino Creek formation and undivided Ordovician to Devonian Road River Group. Two supracrustal deposits, the SB and SEA deposits, are located in the Mt. Myle formation in the vicinity of Swim Lake. The undivided Devonian to Pennsylvanian Earn and Mt. Christie Formations and Lower Permian Anvil Range Group is mapped along the southern margin. Near the Tintina Trench and southern border of the map area are accreted rocks of Yukon Tanana terrane. Late- and post-metamorphic Cretaceous intrusions of the Anvil Plutonic Suite cut the metamorphic stratigraphy in the southeast corner of the map (Lennings and Jolson, 1986).

R - bedrock : isolated outcrops on Blind-Cub Plateau, on crag and tall landforms in the southwest corner of the map and along streams draining into the Pelly River.

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.....

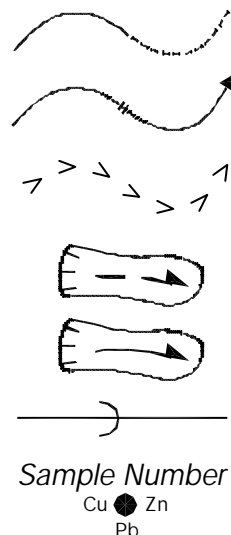
Esker.....

Mass movement failure - slow to moderate (i.e., creeps or slumps).....

Mass movement failure - moderate to fast (i.e., slides or avalanches).....

Aligned landform.....

Till geochemistry sample (ppm).....



REFERENCES

JENNINGS, D.S. and JOLSON, G.A., 1986. Geology and stratigraphic deposits of Anvil Range, Yukon. In: Mineral Deposits of Northern Cordillera. Proceedings of the Mineral Deposits of Northern Cordillera Symposium, MORIN, J.A. (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 NW), central Yukon (1:25,000 scale). Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, Open File 1999-5.

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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 867-667-3366 Fax 867-667-3267.

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

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

Open File 1999-5

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

by

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

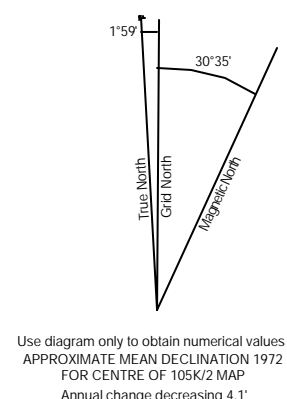
CONTOUR INTERVAL 100 FEET

Elevations in Feet above Mean Sea Level

North American Datum 1983

Transverse Mercator Projection

1000 0 1000 2000 3000 4000 Metres



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ONE THOUSAND METRE

Universal Transverse Mercator Grid
ZONE 8

