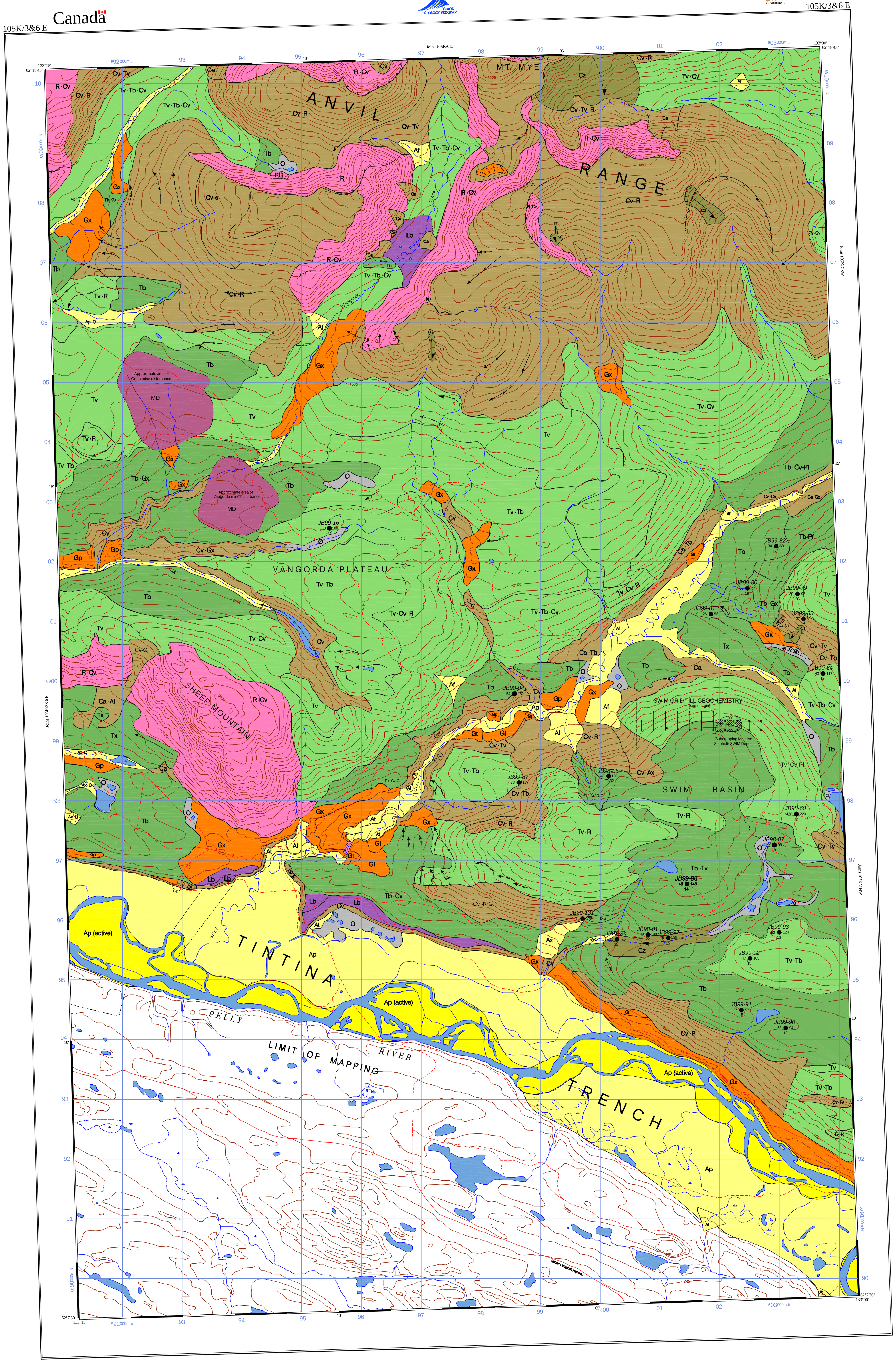
Canada

105K/3&6 E

Yukon Geology Program

Yukon Government

105K/3&6 E



LEGEND

QUATERNARY

HOLOCENE

MINE DISTURBANCE: open-pit mine and stripped material.

MD — *MD - mine disturbance;* consisting of an open-pit and stripped till and bedrock accumulations. Bedrock and surficial sediments exposed in open-pit.

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 the back-swamps of the Pelly River floodplain, in meltwater channels on Vangorda Plateau, and as a veneer (<1 m thick) in old-growth forests. Permafrost is commonly present within 1 m of the surface. Localized palsa development occurs in more poorly drained organic deposits.

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

ALLUVIAL DEPOSITS: sand, silt, pebbles, cobbles and minor boulders deposited in modern drainages. Reworked glacial boulders are common in Blind Creek above its confluence with Pelly River floodplain. Alluvial deposits are common in Blind Creek, Pelly River, and Vangorda Creek valleys.

Ap At Af Ax; Ap (active)

Ap - alluvial plain ; silt, sand and pebbles with reworked cobbles and boulders occurring as bars, overbank floodplain 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.
At - alluvial terrace ; silt, sand and pebbles with reworked cobbles and boulders occurring as low terrace deposits, 0 - 10 m thick.
Af - 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 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: diamicton, 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. Common on the Mt. Mye uplands in the north part of the map area.

Cv Ca — *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 — *Cz - mass wasting* ; includes slumping, debris slides and rockfalls. Slumping and rockfalls are common on Mt. Mye.

LATE PLEISTOCENE (WISCONSINAN) - McCONNELL GLACIATION

GLACIOLACUSTRINE DEPOSITS: well-stratified sand, silt and minor clay deposited in lakes impounded by glacial ice; may have a smooth or kettled surface pattern due to melting of buried glacial ice. Sediments form poorly drained areas with peaty blankets. Thermokarsting is common. Glaciolacustrine sediments are found in upper Vangorda Creek and form high bluffs bordering the Pelly River floodplain.

Lb — *Lb - glaciolacustrine blanket* ; 1 - 40 m thick.

GLACIOFLUVIAL DEPOSITS: stratified to massive; poorly to well sorted; pebbles and sand with minor silt and cobbles; deposited by meltwater originating from glacial ice. Common in Blind Creek, along the margins of the Pelly River valley and in the alpine valleys draining Mt. Mye.

Gp Gt Gx — *Gp - glaciofluvial plain* ; 3-10 m thick.
Gt - glaciofluvial terrace ; <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. Crevasse fillings were mapped in the upper part of Vangorda Creek valley.

GLACIAL DEPOSITS (till): unsorted clay, silt, sand, pebbles and cobbles with minor boulders; deposited by or from glacial ice and occurs as subdued veneer and blanket deposits. Till is common in the Swim Basin and on Vangorda Plateau. Colluviated till veneers fringe Mt. Mye.

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

Tb Tx — *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 glaciofluvial deposits.

LOWER CAMBRIAN TO CRETACEOUS

BEDROCK: The map area is underlain by metasedimentary rocks of North American affinity, Yukon-Tanana terrane and the Anvil Plutonic Suite. North American rocks underlie Vangorda Plateau and Swim Basin in this map area and consist of the Lower Cambrian Mt. Mye formation, the Cambrian to Lower Ordovician Vangorda formation, the Lower Ordovician Menzie Creek formation and uncorrelated Ordivician to Devonian rocks of possible Earn Group affinity. Four sulphide deposits, the Grum, Vangorda, Grizzly and Swim deposits, have been identified on Vangorda Plateau and Swim Basin. Permian and older Yukon-Tanana rocks border the Tintina Fault zone. Late- and post-metamorphic Cretaceous intrusions of the Anvil Plutonic Suite cut the metamorphic stratigraphy and form the core of the Mt. Mye uplands in the north part of the map area (Jennings and Jilson, 1986).

R — *R - bedrock* ; common on plateau summits and ridges on Mt. Mye and Sheep Mountain.

COMBINED MAP UNITS

The surficial geology unit(s) are shown first followed by the terrain modifiers. Combined surficial geology untis 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
Moraine ridge
Cirque
Mass movement failure - slow to moderate (i.e., creeps or slumps)
Mass movement failure - moderate to fast (i.e., slides or avalanches)
Rock glacier — RG
Crevasse filling
Erratic
Aligned landform
Till geochemistry sample (ppm) — *Sample Number*; Cu ● Zn; Pb

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, 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 Mount Mye and Faro (105K/3&6 E), central Yukon (1:25,000 scale). Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, Open File 1999-7.

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.

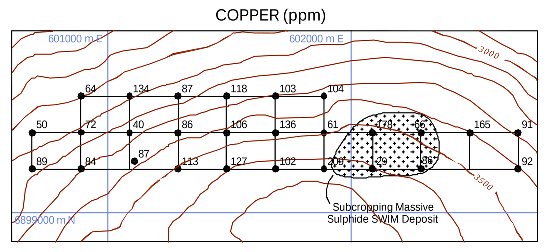
Copies of this map may be purchased from Geoscience Information and Sales, c/o the Whitehorse Mining Recorder, Indian and Northern Affairs Canada, Room 102-300 Main St., Whitehorse, Yukon, Y1A 2B5, Ph 867-667-3266 Fax 867-667-3267.

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

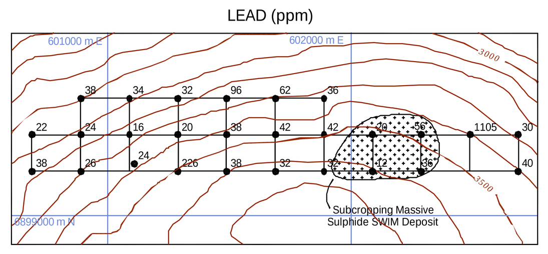
This map was released Nov. 1999, and revised Dec. 15, 1999.

SWIM GRID TILL GEOCHEMISTRY

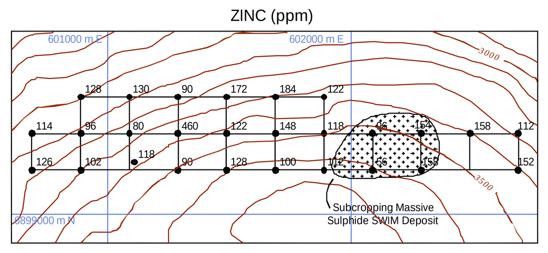
COPPER (ppm)



LEAD (ppm)



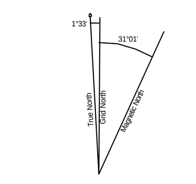
ZINC (ppm)



SURFICIAL GEOLOGY MAP AND TILL GEOCHEMISTRY OF MOUNT MYE AND FARO

(105K/3&6 E), CENTRAL YUKON

SCALE 1:25 000



Use diagram only to obtain numerical values
APPROXIMATE MEAN DECLINATION 1972
AVERAGE OF CENTRES OF 105K/3 AND 105K/6 MAPS
Annual change decreasing 4.05'

Topographic base produced by SURVEYS AND MAPPING BRANCH, DEPARTMENT OF ENERGY, MINES AND RESOURCES.

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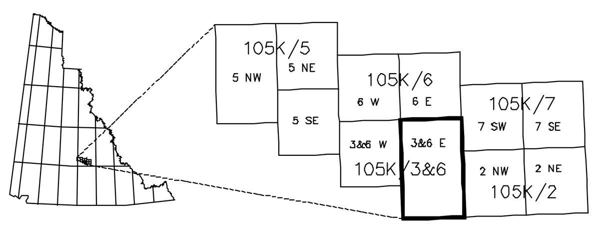
ONE THOUSAND METRE
Universal Transverse Mercator Grid
ZONE 8

CONTOUR INTERVAL 100 FEET
Elevations in Feet above Mean Sea Level
North American Datum 1983
Transverse Mercator Projection

1000 0 1000 2000 3000 4000 Metres



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

Open File 1999-7

SURFICIAL GEOLOGY MAP AND TILL GEOCHEMISTRY OF MOUNT MYE AND FARO (105K/3&6 E), CENTRAL YUKON

by

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Geoscience Office