

Note: This map accompanies the YGS Open File 2023-1 report, which should be referred to for a complete description of the mapping methodology and definitions of polygon labels codes.

This map serves as a general guide to surficial materials only, as it is primarily based on remote interpretation with limited field verification, and significant variation may occur within a polygon. Geotechnical field investigations such as test pitting and/or drilling would be required to fully characterize surficial materials prior to site specific activities.

Surficial material polygon map units were classified using the Terrain Classification System for British Columbia (Howes and Ken, 1997) with minor modifications developed for Yukon Geological Survey's mapping standards to include a wider variety of permafrost features and age classifications.

A sample polygon map label or terrain unit is shown below. Surficial material forms the core of the polygon map labels and is represented by the first single upper case letter in each terrain unit. Up to 3 textural codes are written in lower case to the left of each surficial material (listed in order of decreasing dominance), and up to 3 surface expression codes are written in lower case to the right. An upper case activity qualifier (A = active; I = inactive) may be shown immediately following the surficial material. Alternatively, the glacial qualifier "G" may be written immediately following the surficial material to indicate materials that were deposited in close proximity to glaciers. Age is indicated by an upper case letter that follows the surface expression but precedes any geomorphological modifiers. Up to 3 geomorphological processes (lower case letters) and subclasses (lower case letters) always follow a dash ("-") symbol. Detailed definitions for the polygon map label codes are provided in subsequent sections.

Up to 4 terrain units may be combined in a complex polygon map label if they could not be differentiated at the scale of mapping. Each terrain unit is separated by a delimiter that either indicates relative proportions between the components ("*", ":", ":", "/") or stratigraphic relationships ("^").

zclGpIM-Xt

TEXTURE	SURFICIAL MATERIAL	SURFACE EXPRESSION
Specific clastic textures	Archeanogenic	glaciation
a blocks (>256 mm, angular)	b boulders (>256 mm, rounded)	c boulder (>2m thick)
b boulders (>256 mm, rounded)	e Eolian	d depression(s)
k coarse (64-256 mm, rounded)	f fluvial	f fan(s)
p pebbles (2-64 mm, rounded)	fg Glaciofluvial	h hummock(s)
s sand (0.062-2 mm)	g Glaciofluvial	i delta
t silt (0.002-0.062 mm)	h Hummock	m rolling
z clay (<0.002 mm)	l Lacustrine	p plain
Grouped clastic textures	lg Glaciolacustrine	r ridge(s)
x mixed fragments (>2 mm, rounded and angular)	l Lacustrine	t terrace(s)
x angular fragments (>2 mm, mix of r & s)	lg Glaciolacustrine	v wear (0.1-1 m thick)
g gravel (>2 mm, rounded, mix of s, k, p)	o Organic	w wear (1-1 m thick)
r rubble (2-256 mm, angular, periglacial)	p Bedrock	w mantle of variable thickness
m mud (mix of silt and clay)	n salt (evaporite crystals)	
u silt (0.002-0.062 mm)		
n salt (evaporite crystals)		
Organic terms		
o Organic (poorly decomposed)		
u mesic organic (intermediate decomposition)		

GEOMORPHOLOGICAL PROCESS	PERMAFROST PROCESS SUBCLASSES (follows -X)	HYDROLOGICAL PROCESS SUBCLASSES (follows -U)
Erosional processes	a ablation	a ablation
v gully erosion	b slump-in bedrock	b beaver dams
f fluvial and hydrological processes	x slump-in surficial material	
M meandering floodplain	s debris slide	
I inundation	t thermokarst subsidence	
s slow landslide	f thaw flow slides	
R rapid landslide	p permafrost mounds (tiltalia, palsas, peat plateaus)	
L undifferentiated landslide	t thermokarst subsidence	
Periglacial processes		
N nivation		
S softification		
X permafrost		
Organic processes		
H kettle		
T ice contact		

COMPOSITE SYMBOL DELIMITERS

terrain unit(s) on either side of the symbol are of approximately equal proportion.

terrain unit(s) before symbol is more extensive than the following one(s).

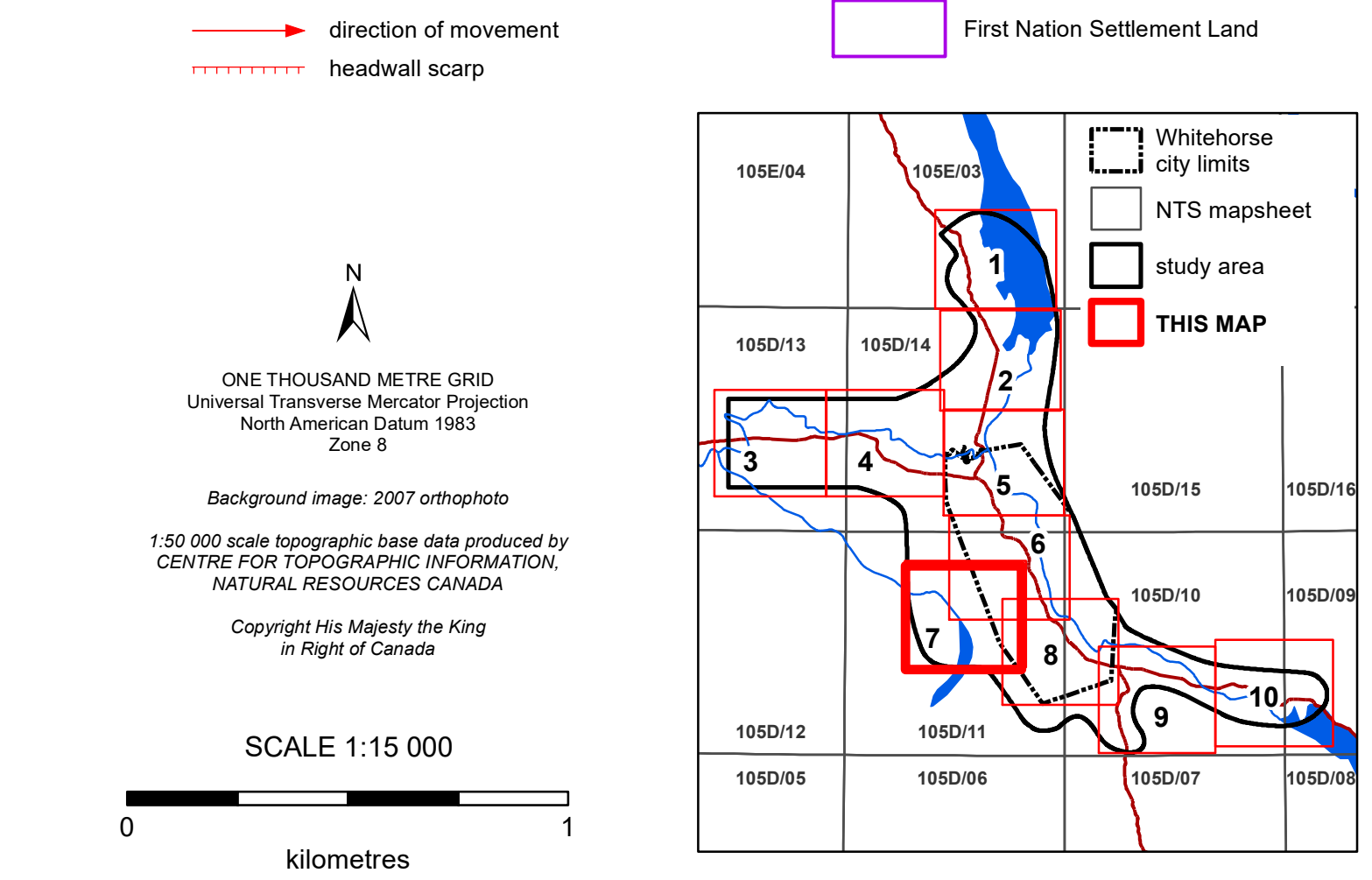
(Also denotes partial/discontinuous cover if located at front of label.)

terrain unit(s) before symbol is much more extensive than the following one(s).

terrain unit(s) before the symbol stratigraphically overlies the following one(s).

SYMBOLS

SYMBOL	DESCRIPTION
—	defined geological boundary
- - - -	approximate geological boundary
---	assumed geological boundary
---	limit of mapping
—	berm or dyke
—	cross section profile, ERT transect
—	cross section profile, unclassified
—	escarpment, unclassified
—	gravel pit
—	gully
—	lineament
—	esker, direction known
—	esker, direction unknown
—	melwater channel, minor, direction known
—	melwater channel, minor, direction unknown
—	melwater channel, major
—	melwater channel, major, flow direction
—	moraine ridge
—	sand dunes
—	shoreline (Holocene)
—	glacial lake shoreline
—	streamlined landform
—	water track
—	ground observation site
—	stratigraphic section
—	gravel pit, active or recently active
—	gravel pit, historical
—	open pit mine
—	drill hole
—	water well (from Yukon water well registry; overburden depth in m)
—	spring
—	karne
—	kettle
—	permafrost mound
—	thermokarst depression
—	sand dune, cliff-top
—	landslide, active layer detachment
—	landslide, debris flow
—	landslide, retrogressive flow
—	landslide, retrogressive flow slump
—	landslide, unclassified



RECOMMENDED CITATION

Lipovsky, P.S., 2023. Surficial geology of the greater Whitehorse area (1:15 000 scale). Yukon Geological Survey, Energy, Mines and Resources, Government of Yukon, Open File 2023-1, Sheet 7.

Any revisions or additional geological information known to the user would be welcomed by the Yukon Geological Survey.

Paper copies of this map may be obtained from Yukon Geological Survey, Geoscience Information and Sales, Energy, Mines and Resources, Government of Yukon, Room 102 - 300 Main St., Whitehorse, Yukon, Y1A 2B5. Phone: 867-667-3201. E-mail: geology@gov.yk.ca

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