

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 MATERIALS

Surficial material polygon map units were classified using the Terrain Classification System for British Columbia (Howes and Kenik, 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 process modifiers. Up to 3 geomorphological processes (upper 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.

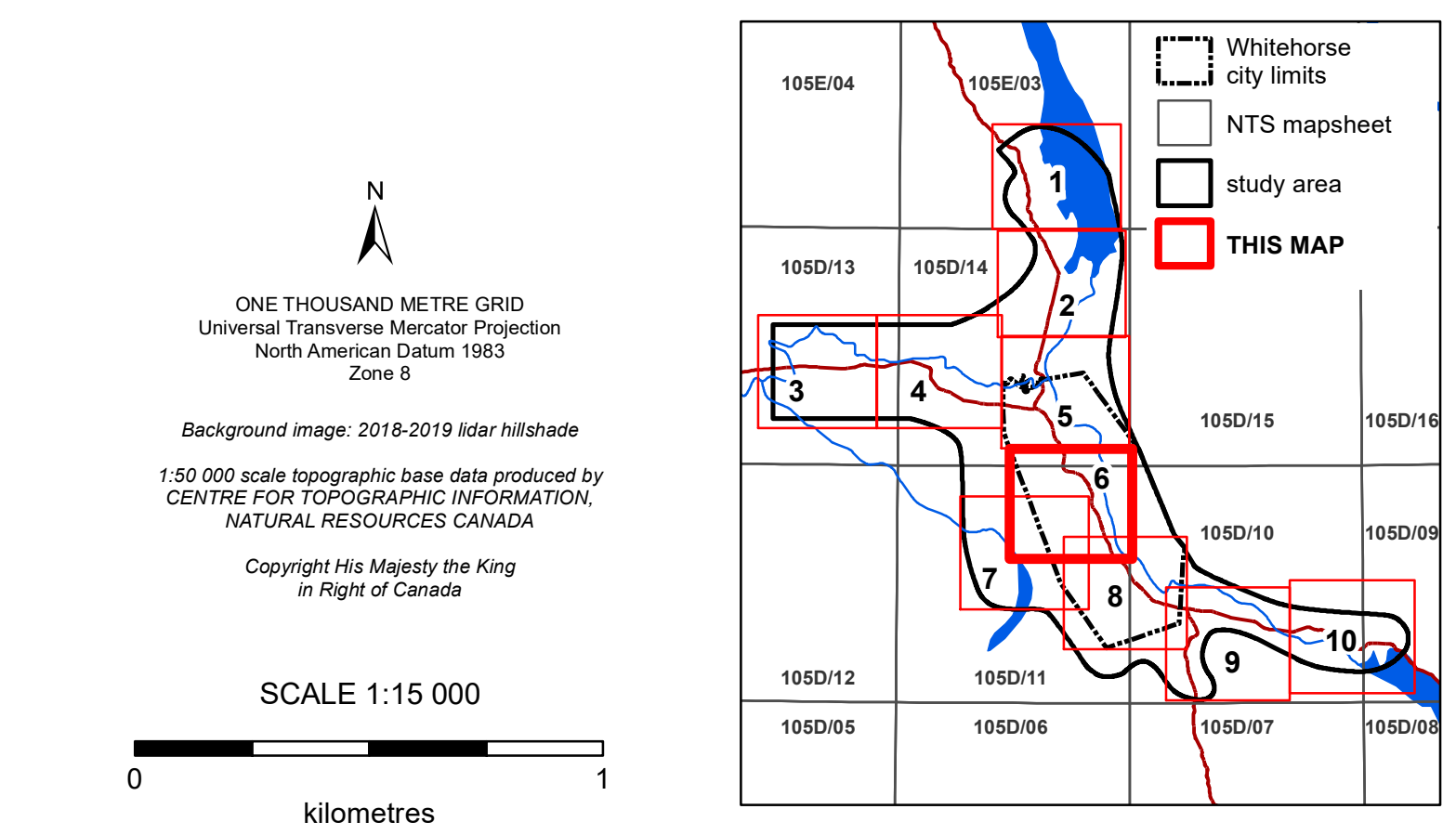
Up to 4 terrain units may be combined in a complex polygon map label if they could not be differentiated at the scale of mapping. Each terrain unit is separated by a delimiter that either indicates relative proportions between the components ("*", ":", ":", "/") or stratigraphic relationships ("^").

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TEXTURE	SURFICIAL MATERIAL	SURFACE EXPRESSION
Specific clastic textures	<ul style="list-style-type: none"> A Anthracogenic B Coluvium E Eolian F Fluvial FA Active Floodplain FG Glaciofluvial FS Sand (0.062-2 mm) S Sand (0.062-0.062 mm) c Clay (<0.002 mm) 	<ul style="list-style-type: none"> a agion b blotlet (>1m thick) d depression(s) f fans(s) h hummock(s) i delta m rolling p plain r ridge(s) t terrace(s) w weaver (1-1m thick) w weaver of variable thickness
Grouped clastic textures	<ul style="list-style-type: none"> g mixed fragments (>2 mm, rounded and angular) x angular fragments (>2 mm, mix of r, s, p) g gravel (>2 mm, rounded, mix of s, p) r rubble (2-25 mm, angular, periglacial) m mud (mix of silt and clay) s silt (silt and/or silt fragments) n salt (evaporite crystals) 	
Organic terms	<ul style="list-style-type: none"> o thick organic (poorly decomposed) u mesic organic (intermediate decomposition) 	
GEOMORPHOLOGICAL PROCESS	MASS MOVEMENT PROCESS SUBCLASSES (follows -L or -R)	PERMAFROST PROCESS SUBCLASSES (follows -X)
<ul style="list-style-type: none"> Erosional processes Fluvial and hydrological processes Mass movement processes Periglacial processes Permafrost processes Other processes 	<ul style="list-style-type: none"> c colluvium e eolian f fluvial h hummock(s) i delta m rolling p plain r ridge(s) t terrace(s) w weaver (1-1m thick) w weaver of variable thickness 	<ul style="list-style-type: none"> a agion b blotlet (>1m thick) d depression(s) f fans(s) h hummock(s) i delta m rolling p plain r ridge(s) t terrace(s) w weaver (1-1m thick) w weaver of variable thickness
COMPOSITE SYMBOL DELIMITERS	<ul style="list-style-type: none"> 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

GEOLOGICAL BOUNDARIES:	
— defined	✕ ground observation site
- - - approximate	✕ stratigraphic section
— assumed	✕ gravel pit, active or recently active
- - - limit of mapping	✕ gravel pit, historical
	○ open pit mine
	○ drill hole
	○ water well (from Yukon water well registry; overburden depth in m)
	○ spring
	○ seep
	○ kettle
	○ permafrost mound
	○ thermokarst depression
	○ sand dune, cliff-top
	○ landslide, active layer detachment
	○ landslide, debris flow
	○ landslide, retrogressive flow slump
	○ landslide, unclassified
GEOLOGICAL FEATURES:	
— berm or dyke	— stream
— cross section profile, ERT transect	— highway
— cross section profile, unclassified	— major road
— escarpment, unclassified	— local road
— gravel pit	— other road
— gully	— Whitehorse city limits
— eskar, direction known	— legal survey parcel
— lineament	— First Nation settlement land
— meltwater channel, minor, direction known	
— meltwater channel, minor, direction unknown	
— meltwater channel, major	
— meltwater channel, major, flow direction	
— moraine ridge	
— sand dunes	
— shoreline (Holocene)	
— glacial lake shoreline	
— streamlined landform	
— water track	
— old	
— recent	
— direction of movement	
— headwall scarp	



REFERENCES

Howes, D.E. and Kenik, E., 1997. Terrain classification system for British Columbia, Version 2. B.C. Ministry of Environment and BC Ministry of Crown Lands, Victoria, BC.

RECOMMENDED CITATION

Lipovsky, P.S., 2023. Surficial geology of the greater Whitehorse area, Sheet 6 (1:15,000 scale). In: Surficial geology and geohazards of the greater Whitehorse area, Yukon Geological Survey, Open File 2023-1, 67 pages plus appendices.

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, Energy, Mines and Resources, Government of Yukon, Room 102 - 300 Main St., Whitehorse, Yukon, Y1A 2B5. E-mail: geology@yukon.ca.

A digital PDF file of this map may be downloaded free of charge from the Yukon Geological Survey website: <https://yukon.ca/en/science-and-natural-resources/geology>.