



Province of British Columbia Ministry of Energy, Mines and Petroleum Resources



OPEN FILE 1991-6 SURFICIAL GEOLOGY OF THE

Geological Survey Branch

SNIPPAKER CREEK AREA

NTS 104B/6E, 7W, 10W, 11E

Geology by D. E. Kerr

1:50 000

For detailed information on the surficial geology of the Snippaker Creek area please refer to the report entitled "Quaternary Geology and Drift Exploration at Mount Milligan and Johnny Mountain, British Columbia" by D.E. Kerr and P. T. Bobrowsky in Exploration in British Columbia 1990, B. C. Ministry of Energy, Mines and Petroleum Resources. Geology based on air photo interpretation with ground truthing limited to Johnny Mtn. area. Fieldwork completed in 1990.

A terrain map unit symbol is composed of combination of letters which designate different characteristics of the terrain. The relative position of letters within the symbol indicates the characteristic that they represent.

SIMPLE TERRAIN UNIT SYSTEM

qualifying descriptor

surficial material

geological process

surficial material

This map unit consists of a gravelly glaciofluvial terrace that overlies sandy lacustrine materials and is modified

Units consisting of two or more types of terrain are designated by two or more groups of letters separated by slashes and/or dots (See Composite Units below).

Materials underlying the surface unit are shown by a symbol that is written beneath the surface unit symbol and separated from it by a horizontal line.

relief is <1 metre; in plan, an assemblage of non-linear, chaotic forms.

A mantle of unconsolidated materials which has no constructional form of its own, but derives its surface expression from the topography of the underlying unit; it reflects minor irregularities of the underlying surface, is generally between 10 cm and 1 metre in thickness, and outcrops of the underlying unit are common; if the underlying material is unconsolidated, it is included in the unit symbol; if no underlying unit is indicated, it is assumed to be bedrock.

Explanatory Notes

1. The use of two or three surface expressions symbols together implies that there is a mixing of discrete forms, not a set of intermediate forms.

2. Where more than one surface expression symbol is used, the symbols are written in order of decreasing importance based on their areal extent.

COMPOSITE UNITS

Composite units are employed where two or three types of terrain are intermixed or occupy such small areas that they cannot be designated as separate units at the scale of mapping. Symbols (defined below) are used to indicate the relative amounts of each terrain type, and the components are always written in decreasing order of

The components on either side of this symbol are approximately equal

The component in front of the symbol is more extensive than the one that follows

The component in front of the symbol is considerably more extensive than the one that follows.

Mb//R Mb is considerably more extensive than R

Mb//R-Cv Mb is considerably more extensive than R; R and Cv are of roughly equal extent Mb/R//Cv R is less extensive than Mb; Cv is considerably less than R

TEXTURE

Clastic Terms

Symbol Name Size (mm) Other Characteristics

a blocks >256 angular particles

b boulders >256 rounded and subrounded particles

k cobbles 64-256 rounded and subrounded particles

p pebbles 2-64 rounded and subrounded particles

s sand 0.062-2

\$ silt 0.002-0.062

c clay <0.002

d mixed fragments >2 mix of rounded and angular particles

g gravel >2 mix of rounded and pebbles

mix of rounded and blocks

r rubble 2-2.5 angular particles mix of clay and silt shells

Organic Terms

Organic Terms

Organic Terms

Organic Terms

Organic Terms

Organic Terms

Symbol Name Characteristics

e fibric least decomposed organic material; well-preserved fibre (40%) can be identified as to botanical origin after rubbing.

Intermediate decomposition between fibric and mesic advanced decomposed organic material; less than 10% of fibres identified as to botanical origin after rubbing.

Explanatory Notes

The absence of a textural term from a unit symbol indicates that texture of the material was not observed in the field and cannot be reliably interpreted from air photos or from a knowledge of the bedrock geology. The reader is referred to surficial material descriptions for general textural information.

Where two or three textural terms are used together, they are written in reverse order of importance and indicate that either the various textures are intermixed or inter stratified.

On-site symbols used in this classification system are outlined below. An upper case letter in the notes column indicates the symbol is standard in terms of shape and size (S), or drawn to actual map scale shape or length (R).

Name

GLACIAL FEATURES

Drumlin

Crag and tail

Roches moutonnées

Striae, grooves (ice flow direction known; unknown)

Undifferentiated lineations and flutings

Moraine ridge (major)

Moraine ridges (minor)

Esker (flow direction known; unknown)

Kettle holes (large; small)

Methwater channel (large)

Methwater channel (small)

Cirques

Glacier flow

PERIGLACIAL FEATURES

Blockfield

Rock glaciers

Tors

Observation of frozen ground

(S)

Notes

Notes

Notes

Los flow is in the direction of the arrow; symbol is placed in the centre of the feature (S)

Ice flow is in the direction of the arrow; symbol is placed in the centre of the feature (S)

Ine drawn along ridge crest (R)

Ines drawn along ridge crest (R)

Ines drawn along ridge crest (R)

Ine drawn along ridge crest (R)

hachures extend to base of slope (R)

physical	materials are classified characteristics such as a stability.	according to their mode of formation or deposition. This influences their texture, structure and compaction, which in turn control conditions of drain	
Each surficial material has an assumed status of activity. Status is either active or inactive. It is only indicate when the actual state of formation is contrary to the assumed state defined for each surficial material and is indicated by the Qualifying Descriptor Symbol (see below)			
Symbol	Name (Assumed Status of Formative Process)	Description	
A	anthropogenic (A)	Man-made or man-modified materials, including those associated with mineral exploitation, waste disposal and landfill.	
С	colluvial (A)	Products of mass wastage; generally consists of massive to moderately wastratified to non-sorted sediments with a variety of particle sizes and shall includes talus slopes, avalanche cones, mantles of weathered bedrock, landslide debris, earthflows and debris flows.	
D	weathered bedrock (A)	Bedrock decomposed in situ by processes of mechanical and/or chemical weathering; the character of the bedrock debris depends on the process of formation and type of bedrock.	
E	eolian (A)	Materials transported and deposited by wind action; generally consist of medium to fine sand and coarse silt that is well-corted and poorly compact includes dunes and loses.	
F	fluvial (I)	Materials transported and deposited by streams and rivers, alluvial materials; generally consist of gravel, sand or sit; gravels are typically well-rounded and contain interstitial sand; sediments tend to be moderate well-sorted and stratified; includes floodplains, river terraces, deltas and some alluvial fans.	
βĞ	glaciofluvial (I)	Fluvial materials deposited in association with glacier ice; generally cons of gravel and sand, and show evidence of ice melting such as kettles and sk structures; sorting, stratification and particle size and shape are variable includes kettled outwash, kames, kame terraces and eakers.	
. 1	ice (A)	Permanent snow and ice; glaciers and icefields	
	lacustrine (I)	Sediments deposited in lakes or reworked by wave action around lake shorelines; generally consist of stratified sand, silt and clay deposited on lake floor or well-sorted littoral sand or gravel; includes beaches, spits bars, and lacustrine terraces of silt or clay.	
ſĠ	glaciolacustrine (I)	Lacustrine materials that were deposited in association with glacier ice; generally similar to lacustrine materials but display features such as alu structures, ice-rafted stones and kettles.	
м	morainal (I)	Material deposited directly by glaciers, till; generally consist of well- compacted material that is non-stratified and contains a haterogeneous mixture of particle sizes, shapes and lithologies in a matrix of sand, sit	
0	organic (A)	Material resulting from the accumulation and decay of vegetative matter; generally consists of peat, although minor amounts of mart and inorganic detritus may be included; includes bogs, fens, swamps and thin organic ven	
R	bedrock (I)	Outcrops and rock covered by less than 10 cm of unconsolidated material.	
U	undifferentiated (I)	A layered sequence of more than three types of material outcropping on a scarp slope.	
v	volcanic (I)	Unconsolidated pyroclastic sediments including volcanic ash, lapilli and coarser ejecta.	
w	marine (I)	Sediments deposited in marine waters, or reworked by wave action along marine shorelines; generally consist of clay, silt, sand or gravel that is sorted and stratified and may contain shells; includes spits bars, beaches deeper water deposits.	
WG	glaciomarine (I)	Sediments of glacial origin, laid down in a marine environment in close proximity to glacier ice; generally relatively poorly sorted and stratified massive, and may contain shells; includes marine drift and stoney clays.	

geological processes that are currently modifying or have modified surficial materials and surface expressions.

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The status of all geological processes are assumed to be solive. The exceptions are the processes, channeled by melwater and battled within have an assumed status of linacities.

Symbol Name (Assumed Processe)

B braiding channel (A)

C cryoturbation (A)

C cryoturbation (A)

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C cryoturbation (A)

E channelled (I)

E ch

OTHER LANDFORMS AND FEATURES (continued)		
Piping depression	Φ	(\$)
Karst depression (large; small)	sh o	(R; S)
Gully	TITE	(R)
Spring	*	(\$)
Gravel pit (active; abandoned)	XX	(S)
Quarry or mine (active; abandoned)	XX	(\$)
Gravel occurrence	o	(S)
Cinder cone	(v _o)	(8)
MASS MOVEMENT SYMBOLS	→	
Snow avalanche		symbol follows track downslope (R)
Large Landslide:	m	
headwall scar only	()	(R)
headwall scar and area affected	03	(R)
Small Landslide:		
headwall scar only		(S)
headwall scar and track	~	symbol follows track downslope (R)
Tension cracks	-8	(S)
Sackung (sagging slopes)	7	(S)
POINT OBSERVATIONS		
Quaternary fossil site	∣ €	(S)
Observation site (ground; air)	• 0	(S)
Stratigraphic section site	+	(S)
¹⁴ C dated site	Date Material	
	*	location on map with data recorded in legend (S)
Anthropogenic site	A	(8)