

Le Programme national de cartographie géoscientifique du Canada LEGEND represented on this map. HOLOCENE Made Land: placer mines, roads, and airstrip collapse is common. Organic Blanket: undivided; thickness > 1 m to 5 m Organic Veneer: blanket bog generally < 1 m thick floods; thickness 1 to 5 m cannot be subdivided at this map scale HOLOCENE AND PLEISTOCENE (UNDIVIDED) hummocky or undulating commonly discontinuous over bedrock up to 5 m or more in the thickest part of the apron segregated bodies of ice and buried ice wedges MIDDLE TO LATE PLEISTOCENE (UNDIVIDED) sediments commonly contain placer gold exceed 10 m in mid-valley locations LATE PLEISTOCENE - McCONNELL GLACIATION MIDDLE PLEISTOCENE - REID GLACIATION cryoturbation; soil thickness < 0.5 m Glaciofluvial Terrace Sediments: gravel and sand, moderately weathered, forming one LATE PLIOCENE TO MIDDLE PLEISTOCENE - pre-Reid GLACIATIONS (UNDIVIDED) GLACIOLACUSTRINE DEPOSITS: well stratified sand, silt, clay, deposited in lakes ponded by glacial ice Glaciolacustrine Undivided: sand, silt, and clay; undifferentiated at this scale of

CARTNAT Canada's National Geoscience Mapping Program

> matrix ranging from sand to clay that supports clasts ranging from boulders to pebbles Note: Map units listed below occur within one metre of the surface. Where organic or in size; deposited either directly from glacial ice or by gravity flow from glacial ice; eolian sediments < 1 m thick overlie these, a pattern is overlaid upon the map unit. surface soils may extend to 2 m depth with well developed clay skins on clasts, Along some valleys, colluvial or alluvial sediments > 1 m thick overlie older alluvial frequent signs of cryoturbation (ice wedge pseudomorph and sand wedges), and gravels that could contain placer gold. In order to accentuate these potentially strong chemical weathering exploitable deposits, a compound map unit is presented, e.g., Cx/At^T. This means that colluvial complex sediments overlie alluvial terrace sediments thought to be late Tertiary in age. This legend is part of a larger regional study hence coloured boxes Till Blanket: diamicton, stony, silty-sand matrix; massive; conforms to underlying indicate units that appear on this map. In addition, not all symbols in the legend are topography, thickness > 1 m; extensively colluviated on slopes Till Veneer: diamicton, stony, silty-sand matrix; massive; discontinuous and may contain extensive areas of thin (< 1 m) colluvium ALLUVIAL DEPOSITS: Gravel and sand deposited by streams that were not fed by glacial meltwater; sediments may have experienced several cycles of alluviation and erosion, but are now inactive due to burial or fluvial incision; basal gravels within these ORGANIC DEPOSITS: peat and organic silt formed predominantly by the sediments commonly contain placer gold accumulation of vegetative material in bogs, fens, and swamps situated on valley bottoms; permafrost is commonly encountered within 1 m of the surface. Thermokarst Alluvial Terrace Sediments: sandy pebble and cobble gravel deposited by streams AtPR having a fluvial source but graded to the margins of pre-Reid glaciers or glacial UNDIFFERENTIATED DRIFT: diamicton, gravel, sand, silt and clay deposited from glacial ice, glacial streams, and glacially damned lakes; extensive weathering, poor exposure and permafrost make differentiation into component glacial sediments difficult; thicknesses commonly exceed 10 m and mask underlying bedrock topography; commonly colluviated and intergraded with colluvium; surface soils may extend to 2 m depth with well developed clay skins on clasts, frequent signs of cryoturbation (ice wedge pseudomorph and sand wedges), and strong chemical ALLUVIAL DEPOSITS: gravel to silt size sediments, well stratified, deposited by Drift: flat to gently sloping Floodplain Sediments: gravel, cobble to pebble; massive to well stratified, capped by sand and silt; flat lying; includes lacustrine and organic deposits in abandoned channels and backswamp areas; subject to periodic inundation and reworking by Drift Modified by Landsliding: drift translated along failure plains into irregular steps and sub parallel scarps Alluvial Fan Sediments: gravel, sand, silt, and diamicton, massive to well stratified; Af sediments form fan-shaped landforms or complexes of coalesced fan-shape landform at the confluence of tributary streams; may be subject to flooding accompanied by Fluvially Incised Drift: formerly extensive areas of drift incised by closely spaced stream sudden stream migration and inundation; thickness up to 10 m Alluvial Sediments Complex: sediments forming floodplains, fans, and terraces that Basalt: columnar alkaline olivine basalt and flow breccia; erosional remnants of V^T formerly valley filling flows underlying terraces along lower Rosebud Creek; thickness COLLUVIAL DEPOSITS: stony diamicton resulting from the physical and chemical PLIOCENE AND LATE MIOCENE breakdown of bedrock and subsequent reworking and transportation by creep, solifluction, and landsliding; colluvial deposits may contain reworked glaciofluvial and ALLUVIAL DEPOSITS: preglacial gravel and sand; highly dissected and deeply morainal sediments within the limits of pre-Reid ice-cover and reworked eolian sediments; colluvial deposits are products of formation and reworking over a significant part of the Pleistocene and Holocene epochs; surface is commonly Pediment and Bajada Sediments: inclined fluvial surfaces which are found at a PT midslope position in unglaciated drainage systems; usually thinner than 5 m; formed as a result of limited agradation of stream gravel and significant colluviation; Colluvial Blanket and Veneer Sediments: diamicton, stony with a sandy matrix; composed of thin, poorly sorted gravel that contains both locally derived subangular massive to poorly stratified; colluviated blankets generally conform to underlyll bedrock and exceed 1 m in thickness; veneers are < 1 m in thickness and are High Level Terrace Sediments (includes White Channel Gravel and equivalent At^T sediments): weathered pebble to cobble gravel > 1 m thick; surface soils may extend Colluvial Apron Sediments: bouldery diamicton and bouldery sandy gravel, poorly to 2 m depth with well developed clay skins on clasts, frequent signs of cryoturbation sorted; massive; sediments form a wedge-like slope-toe complex of small steep debris (ice wedge pseudomorph and sand wedges), and strong chemical weathering; within flow and solifluction deposits; thickness is < 1 m at the upper and lower slope limit to the Yukon River valley, terraces above the 500 m contour may be remnant features from the southward-flowing paleo-Yukon River drainage system Landslide Sediments: silt loam to boulders, poorly sorted to unsorted; massive; clasts Bedrock: schist, gneiss, ultramafics, granodiorite, monzonite, marble, and basalt; are subangular to angular and are locally derived; thickness varies greatly R includes areas of thin colluvial cover, blockfields, and sorted stone polygons in alpine Colluvial Complex Sediments: areas of intergrading colluvial and alluvial sediments which are too complex to subdivide at the scale of mapping; unit may include colluvial and alluvial fan, colluvial blanket, landslide sediments and colluviated drift within the SYMBOLS limits of glaciation; the unit commonly occurs along the lower slopes of valley margins Colluvial/Eolian Apron (muck): primary deposits of eolian fine sand and silt Geologic contact; defined, approximate, inferred resedimented and interstratified with organic silt, and detritus, alluvial fan gravel and sand and variable amounts of stony colluvial diamicton; forms aprons along valley Open system pingo, collapsed open system pingo bottoms through resedimentation of eolian sediments from valley sides to valley floor. Thermokarst collapse activity . commonly preserved on north-facing slopes; thickness 1 to 20 m; commonly contains Landslide movement direction in bedrock and colluvium Scarps created by widespread landslide movement in drift ALLUVIAL DEPOSITS: gravel and sand deposited by streams that were not fed by Terrace scarp (ticks on sloped side) . glacial meltwater; sediments may have experienced several cycles of alluviation and erosion, but are now inactive due to burial or fluvial incision; basal gravels within these Degraded Cirque: active during pre-Reid Glaciations Degraded Arête: active during pre-Reid Glaciations . Alluvial Terrace Sediments: gravel, cobble to pebble with a sandy matrix; massive to Meltwater channel: flow direction, unknown flow direction well stratified; capped by sand and silt; sediments are of flood plain origin now isolated from flooding by stream incision; thickness 1 m to 10 m Large meltwater channel Alluvial Fan Sediments: single fans or aprons of coalesced fans formed of gravel and All time (pre-Reid) glacial limit; defined, inferred sand, poorly to moderately sorted, now isolated from water and debris floods due to fluvial incision; sediments disturbed by cryoturbation; thickness up to 10 m Alluvial/Colluvial Complex Sediments: silt, sand and gravel, poorly to moderately sorted; thin to thick bedded, interstratified with colluvial diamicton; sediments underlie the floors and margins of narrow upland valleys and grade laterally up slope into colluvial blankets; sediments may represent several depositional cycles; thickness may Vertebrate fossil locality EOLIAN DEPOSITS: well sorted medium sand to silt initially transported and deposited by wind action during glaciations and commonly resedimented through fluvial and colluvial processes; deposits of very fine sand and coarse silt < 1 m thick are Lineaments (fault, fracture, joint system) defined distributed discontinuously throughout low lying areas by linear drainage courses, aligned gaps in ridges, or aligned breaks in bedrock slopes . Eolian Blanket: fine sand and silt, well sorted; massive; may form crescent-shape and linear dunes and featureless or gently undulating inter-dune eolian plains; thickness 1 Abandoned valley: paleoflow defined . Abandoned valley: paleoflow undefined Eolian Veneer: thin deposits of very fine sand and coarse silt distributed Paleoflow, suspected buried valley discontinuously throughout low lying areas, thickness < 1 m GLACIOFLUVIAL DEPOSITS: gravel and sand deposited by streams flowing away from glacial ice; deposits display poor soil development with rare cryoturbation Glaciofluvial Terrace Sediments: gravel and sand, unweathered, forming one or more GLACIOFLUVIAL DEPOSITS: gravel and sand deposited by streams flowing away from glacial ice; deposits display moderate soil development with signs of

MORAINAL DEPOSITS (TILL): glacial diamicton, mainly till, generally consisting of a

Geology by D.G. Froese (1999 - 2002)

GLACIOFLUVIAL DEPOSITS: gravel and sand deposited by streams flowing away

Glaciofluvial Terrace Sediments: gravel and sand, deeply weathered; incised into

from glacial ice in meltwater channels and outwash plains; massive to well stratified.

Surface soils may extend to 2 m depth with well developed clay skins on clasts, frequent signs of cryoturbation (ice wedge pseudomorph and sand wedges), and

strong chemical weathering

138°00'

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NATIONAL TOPOGRAPHIC SYSTEM REFERENCE AND INDEX TO ADJOINING GEOLOGICAL SURVEY OF CANADA MAPS

115 N/10 115 N/9 115-0/12 115-0/11 115-0/10 115-0/9

flights of terraces; thickness 1 to > 5 m

Co-ordinated through the auspices of the Ancient Pacific Margin NATMAP

Digital cartography K. Shimamura, Terrain Sciences Division

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

Parm Dhesi, Earth Sciences Sector Information Division (ESS Info) Magnetic declination 2005, 25°59' E, decreasing 19.6' annually

Contour interval 100 feet

Digital base map from data compiled by Geomatics Canada, modified by

Elevations in metres above mean sea level

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