

STRATIGRAPHIC LEGEND

Note: Not all stratigraphic units from the legend are present on this map.

HOLOCENE (< 0.012 Ma)

Modern soil

LATE PLEISTOCENE (< 0.125 Ma)

Silt, organic rich, peat, and organic detritus, and extensive muskeg and peat; collectively called muck

Massive to stratified silt and sand; colluvial sediments (may date to Middle Pleistocene)

Massive to stratified silt and sand; colluvial sediments

MIDDLE PLEISTOCENE (0.125 - 0.780 Ma)

Blocky pebble-cobble gravel; dark brown (2.5 YR), clay silts extend to 1.7 m depth; muskeg throughout the weathered and decomposed; clay predominantly rounded; gradational lower contact

Stratified sand and gravel; glaciofluvial sediments deposited during Red glaciation

Stratified sand and gravel; glaciofluvial sediments deposited during younger pre-Red glaciations

Massive to stratified silt and sand; primary and resedimented colluvial sediments

LATE PLEISTOCENE TO EARLY PLEISTOCENE (2.7 - 0.780 Ma)

Pebbles developed in late Pleistocene to early Pleistocene glaciofluvial and non-glacial sediments

Stratified sand and gravel; glaciofluvial sediments deposited during older pre-Red glaciations

Stratified to massive silt and sand; deposited during one of several older pre-Red glaciations

Fine sand, silt and clay; lacustrine or slack water fluvial sediments

Stratified to massive sand and gravel; non-glaciofluvial sediments; may be greater to pre-Red outwash

PLEISTOCENE (pre-glacial, > 2.7 - 0.780 Ma)

Basalt and basalt breccia

Stratified to massive gravel and sand; White Channel Grew and equivalent units; post-glacial regional glaciation; includes Late Tertiary piedmont sediments

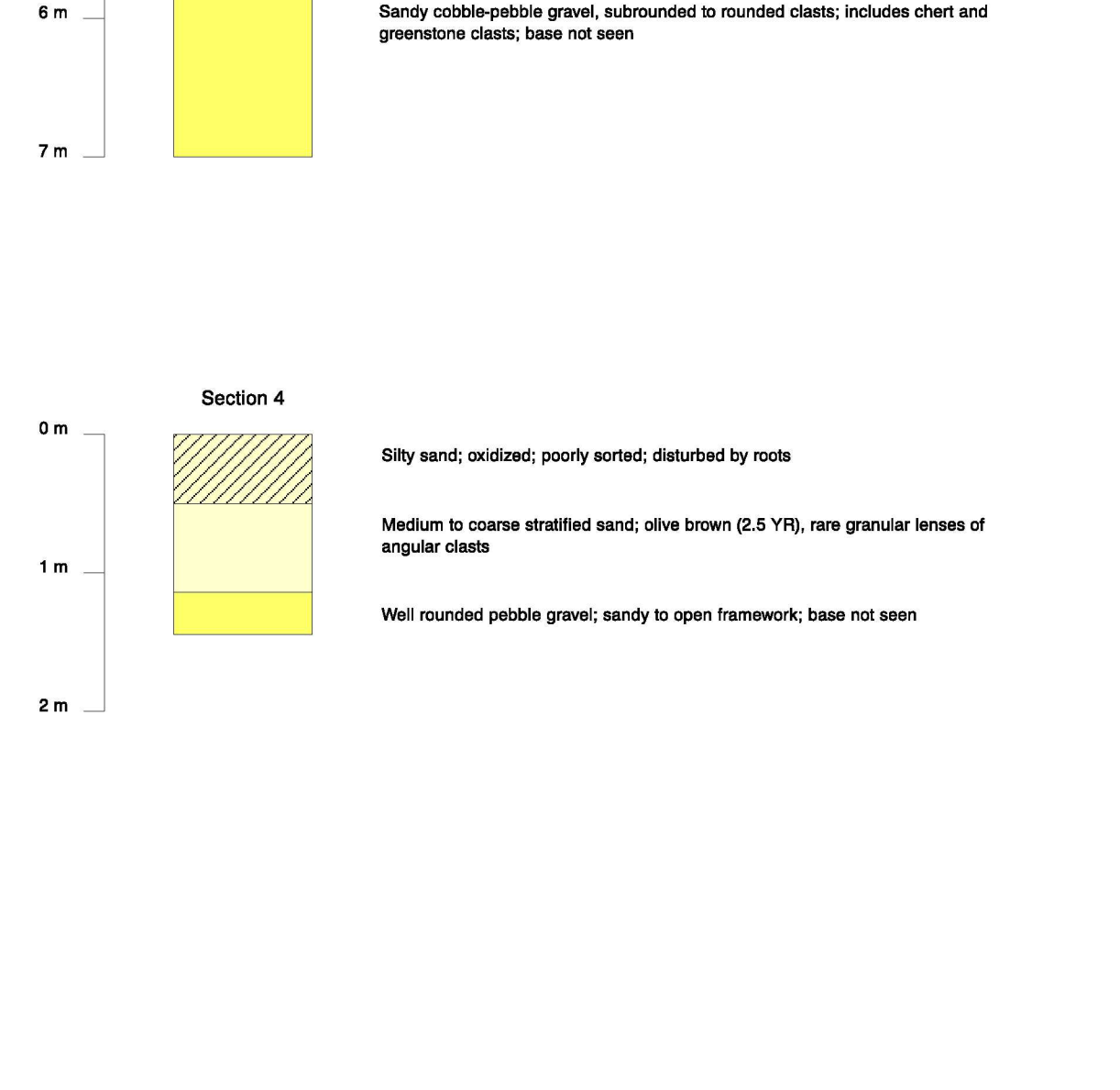
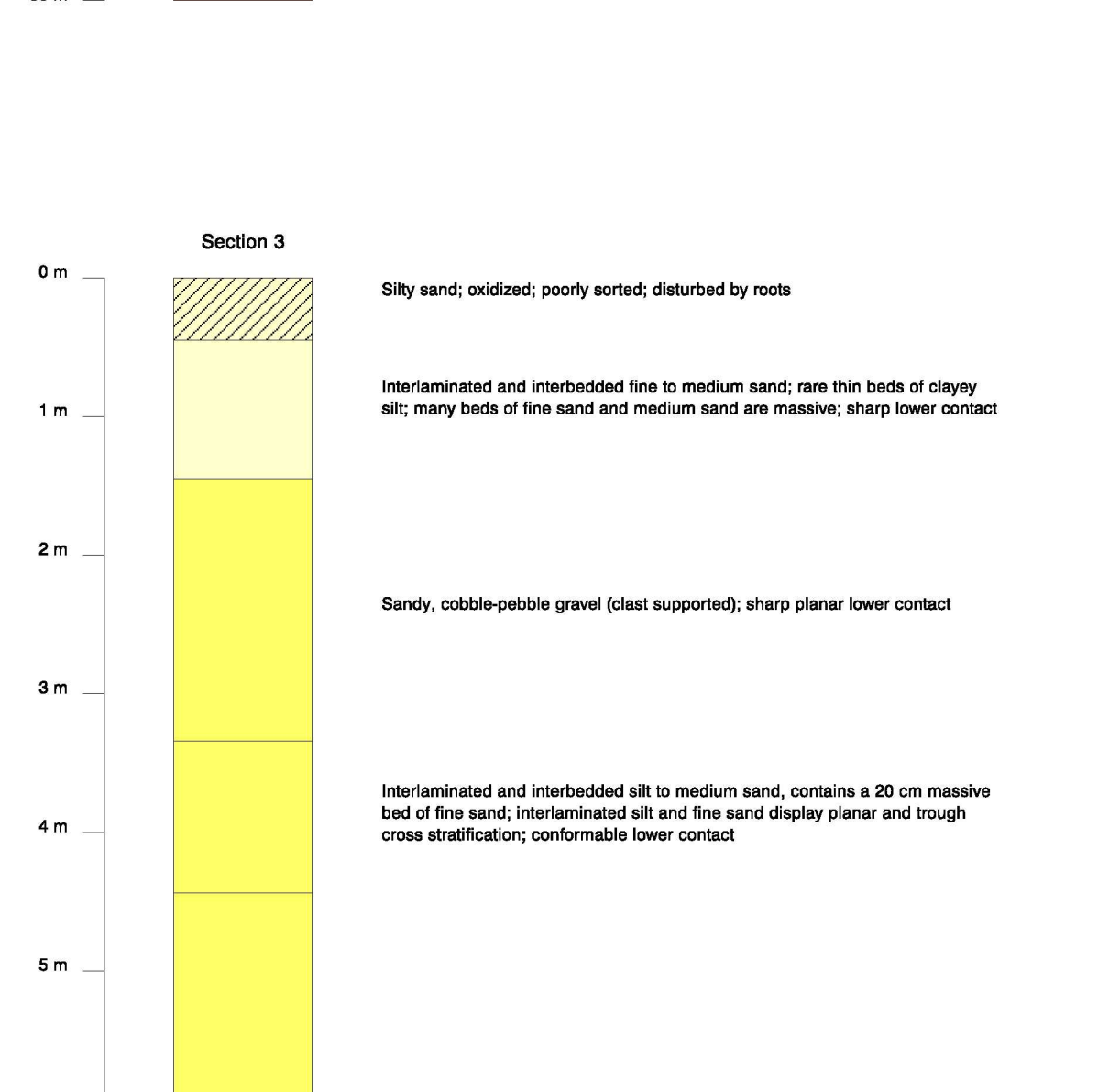
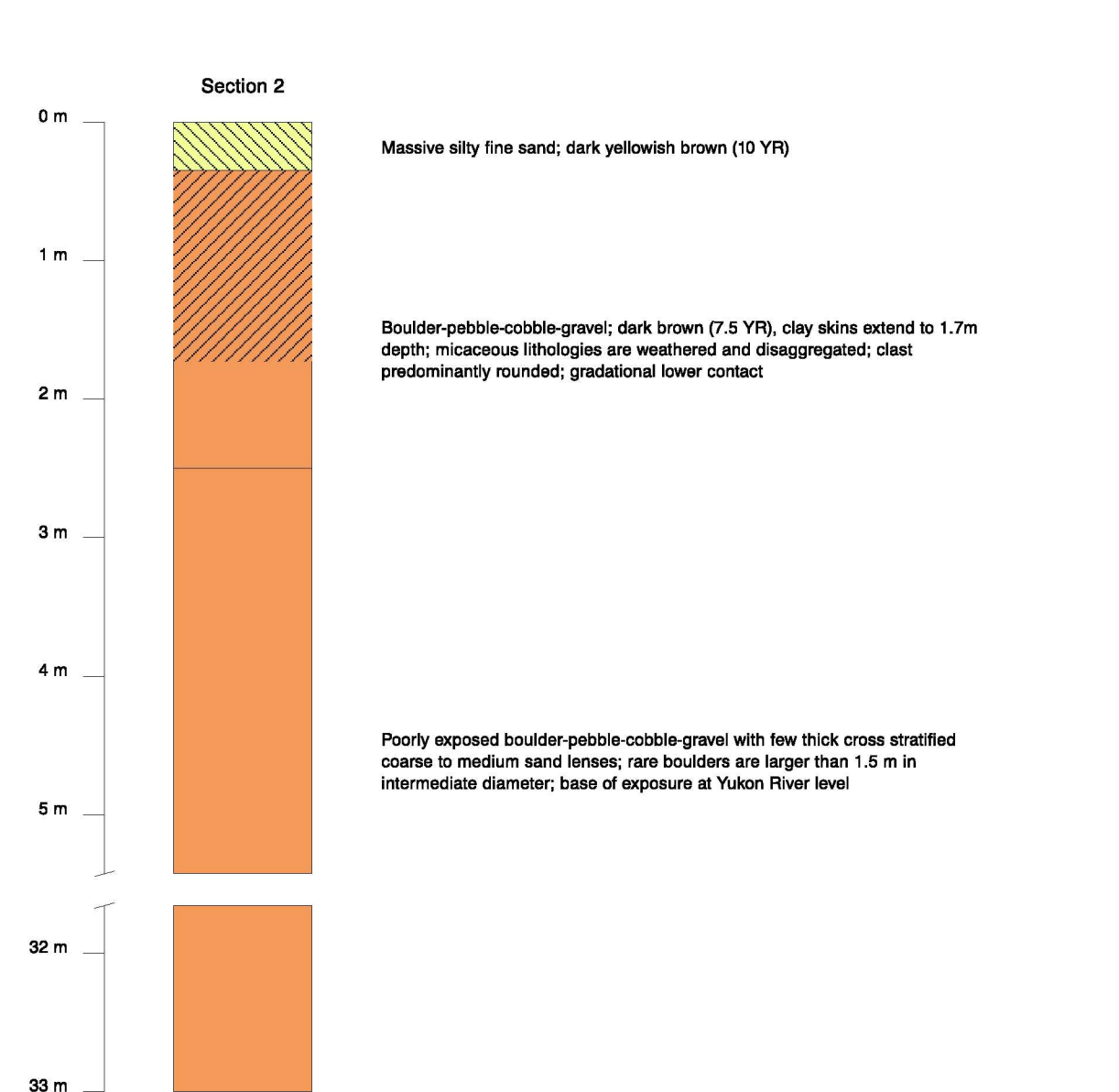
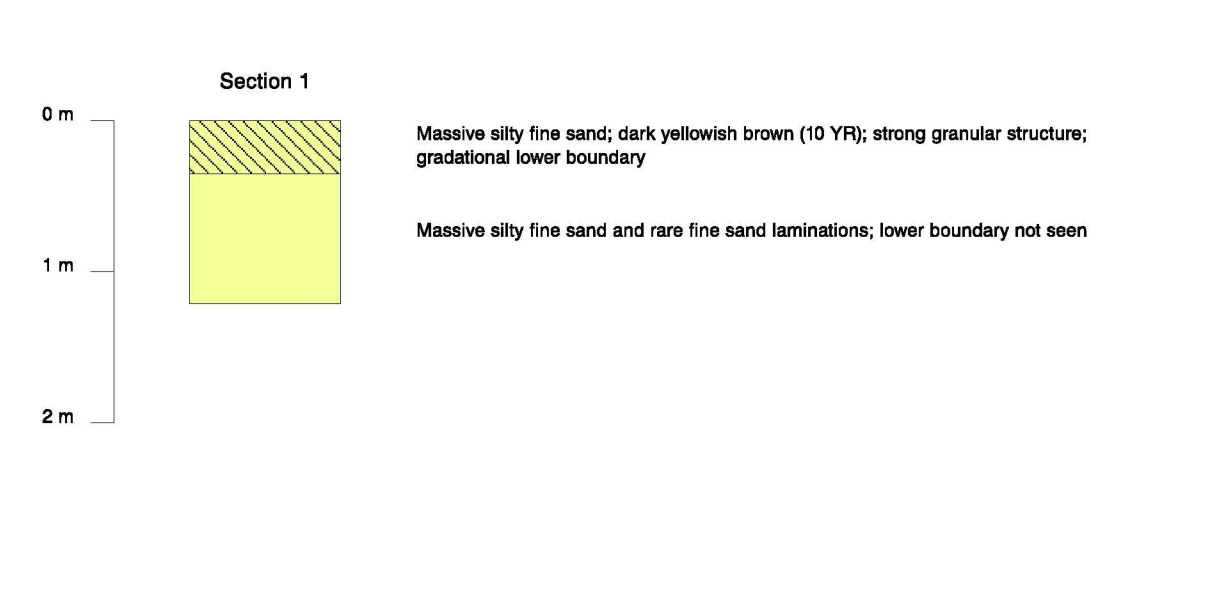
PRE-PLUVOCENE (> 4 Ma)

Mesozoic and Paleozoic bedrock

SYMBOL

Tapra - identification and age, if known, described on stratigraphic log

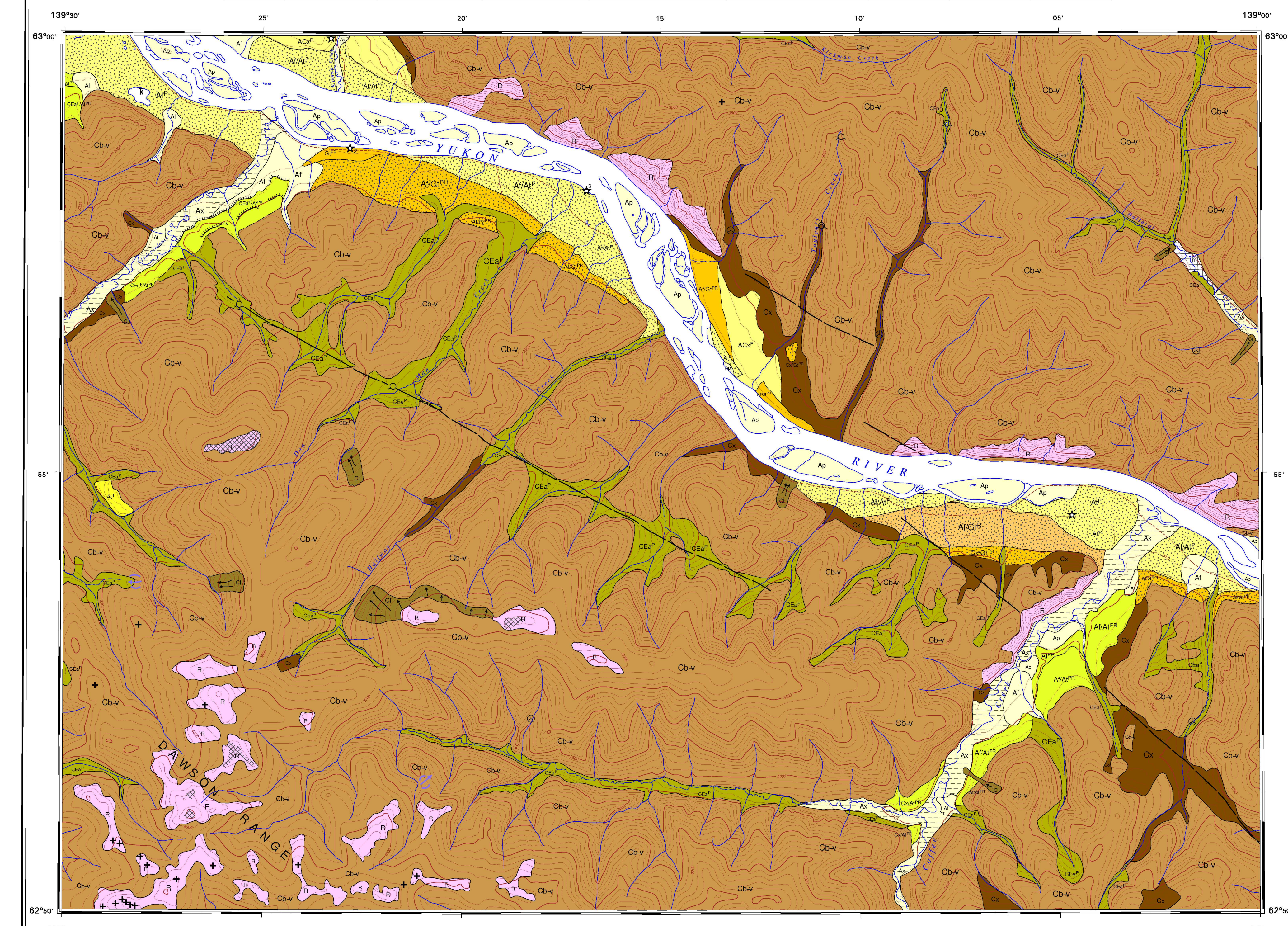
Ice wedge pseudomorph or sand wedge



Natural Resources Canada / Ressources naturelles Canada

GEOLOGICAL SURVEY OF CANADA / COMMISSION GÉOLOGIQUE DU CANADA

NATMAP CARTMAP
Canada's National Geoscientific Mapping Program / Le Programme national de cartographie géoscientifique du Canada



OPEN FILE 4344
SURFICIAL GEOLOGY
COFFEE CREEK
YUKON TERRITORY

Scale 1:50 000 / Échelle 1:50 000

Universal Transverse Mercator Projection / Projection transversale universelle de Mercator
North American Datum 1983 / Système de référence géodésique nord-américain, 1983
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119°15'	119°10'	119°05'	119°00'	118°55'	118°50'
119°10'	119°05'	119°00'	118°55'	118°50'	118°45'
119°05'	119°00'	118°55'	118°50'	118°45'	118°40'
119°00'	118°55'	118°50'	118°45'	118°40'	118°35'
118°55'	118°50'	118°45'	118°40'	118°35'	118°30'

LEGEND

Note: Map units listed below occur within one metre of the surface. Where organic or silty sediments < 1 m thick overlie these, a pattern is overlaid upon the map unit. Along some valleys, colluvial or alluvial sediments > 1 m thick overlie older alluvial gravels that could contain placer gold. In order to accommodate these potentially erodible deposits, a composite map unit is presented, e.g., CA¹. 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 colour-coded base indicate units that appear on this map. In addition, not all symbols in the legend are represented on this map.

CENOZOIC

QUATERNARY HOLOCENE

Modern soil

Made Land: placer mines, roads, and airstrip

ORGANIC DEPOSITS: peat and organic silt formed predominantly by the accumulation of vegetative material in bogs, fens, and swamps situated on valley bottoms, permafrost is commonly encountered within 1 m of the surface. Thermoklast collapse is common.

ALLUVIAL DEPOSITS: gravel to silt size sediments, well stratified, deposited by streams

Floodplain Sediments: gravel, cobble to pebble; massive to well stratified, capped by sand and silt; fill lying; includes lacustrine and organic deposits in abandoned channels and backswamp areas, subject to periodic inundation and reworking by floods; thickness 1 to 5 m

Alluvial Fan Sediments: gravel, sand, silt, and diatomite; massive to well stratified; sediments form the exposed and/or collapsed or conical fan shape westward at the confluence of tributary streams; may be subject to flooding accompanied by sudden stream migration and inundation; thickness up to 10 m

Alluvial Terrace Sediments: gravel, silt, and diatomite; massive to well stratified; sediments form the exposed and/or collapsed or conical fan shape westward at the confluence of tributary streams; may be subject to flooding accompanied by sudden stream migration and inundation; thickness up to 10 m

HOLOCENE AND PLEISTOCENE (UNDIVIDED)

Colluvial Blanket and Veneer Sediments: diatomite, silty with a sandy matrix; massive to poorly stratified; sediments generally conform to underlying bedrock and exceed 1 m in thickness; veneers are < 1 m in thickness and are commonly discontinuous over bedrock

Colluvial Apron Sediments: diatomite and diatomite silty gravel; poorly sorted; massive; sediments form a wedge-like slope-toe complex of small steep debris flow and solution deposits; thickness is < 1 m at the upper and lower slope limit to up to 10 m or more at the thicker part of the apron

Landslide Sediments: silt, sand to boulders; poorly sorted; unsorted; massive; clasts are subangular to angular and are locally derived; thickness varies greatly

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 colluvial drift within the limits of glaciation; this unit commonly occurs along the lower slopes of valley margins

Colluvial Eolian Apron (muck): primary deposits of coarse fine sand and silt; resedimented and interstratified with organic silt, detritus, alluvial fan gravel and sand and variable amounts of silty colluvial diatomite; forms aprons along valley bottoms through resedimentation of colluvial sediments from valley slopes to valley floor; commonly preserved on north-facing slopes; thickness 1 to 20 m; commonly contains segregated bodies of ice and buried ice wedges

MIDDLE TO LATE PLEISTOCENE (UNDIVIDED)

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 sediments commonly contain placer gold

Alluvial Terrace Sediments: gravel, cobble to pebble with a sandy matrix; massive to 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

Alluvial Fan Sediments: single fans or aprons of colluvial fans formed of gravel and 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 Complex Sediments: silt, sand and gravel; poorly to moderately sorted; thin to thick bedrock; interstratified with colluvial detritus; 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 exceed 10 m in mid-valley locations

Eolian Blanket: fine sand and silt, well sorted; massive; may form crescent shapes and linear dunes and features or gently undulating inter-dune eolian plains; thickness 1 to 5 m

Eolian Veneer: thin deposits of very fine sand and coarse silt distributed discontinuously throughout low lying areas; thickness < 1 m

LATE PLEISTOCENE - MCCOWELL GLACIATION

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 terraces

MIDDLE PLEISTOCENE - RED GLACIATION

GLACIOFLUVIAL DEPOSITS: gravel and sand deposited by streams flowing away from glacial ice; deposits display moderate soil development with signs of cryoturbation; soil thickness < 0.5 m

GLACIOFLUVIAL Terrace Sediments: gravel and sand, moderately weathered, forming one or more terraces

LATE PLEISTOCENE TO MIDDLE PLEISTOCENE - pre-Red GLACIATIONS (UNDIVIDED)

GLACIOFLUVIAL DEPOSITS: well stratified sand, silt, clay, deposited at lakes ponded by glacial ice

GLACIOFLUVIAL UNDIVIDED: sand, silt, and clay; undifferentiated at this scale of mapping

GLACIOFLUVIAL DEPOSITS: gravel and sand deposited by streams flowing away 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

GLACIOFLUVIAL Terrace Sediments: gravel and sand; deeply weathered; incised into flutes of terraces; thickness 1 to > 5 m

MORAINAL DEPOSITS (TILL): glacial diatomite, mainly till, generally consisting of a matrix ranging from sand to clay that encloses clasts ranging from boulders to pebbles in size; deposited either directly from glacial ice or by gravity flow from glacial ice; 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

FILL BLANKET: diatomite, silty, sandy sand matrix; massive; conforms to underlying topography; thickness > 1 m; extensively cultivated on slopes

FILL VENEER: diatomite, silty, sandy sand matrix; massive; discontinuous and may contain extensive areas of till

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 sediments commonly contain placer gold

Alluvial Terrace Sediments: sandy pebble and cobble gravel deposited by streams having a local source but graded by the margins of pre-Red glaciation or glacial drainage; thickness 1 to 5 m

UNDIFFERENTIATED DRIFT: diatomite, gravel, sand, silt and clay deposited from glacial ice; glacial streams, and locally diatomite rich; extensive weathering, poor exposure and permafrost make differentiation into component glacial sediments difficult; thickness commonly exceeds 10 m and mask underlying bedrock topography; commonly colluvial 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 weathering

DRIFT: drift to gently sloping

DRIFT Modified by Landsliding: drift translated along failure planes into irregular steps and sub-parallel faces

FLUVIALLY INCISED DRIFT: formerly extensive areas of drift incised by closely spaced stream valleys

LATE PLEISTOCENE

Basalt: columnar basalt; olive basalt and flow basalt; occasional remnants of formerly valley filling flows underlying terraces along lower Redoubt Creek; thickness 10 m

PLEISTOCENE AND LATE MIOCENE

ALLUVIAL DEPOSITS: proglacial gravel and sand; highly dissected and deeply weathered

Piedmont and Bajaz Sediments: incised fluvial surfaces which are found at a microscale position in unglaciated drainage systems; usually thinner than 5 m; formed as a result of limited aggradation of stream gravel and agricultural cultivation; composed of fine, poorly sorted gravel that contains both locally derived subangular stream gravel deposits and angular bedrock fragments

High Level Terrace Sediments (includes White Channel Gravel and equivalent sediments): weathered pebbles to cobble gravel > 1 m thick; 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; terraces above the 500 m contour may be retained features from the southward-flowing paleo-Yukon drainage system

PRE-LATE TERTIARY

Bedrock: siltstone, gneiss, ultramafic, granodiorite, monzonite, marble, and basalt; includes areas of thin colluvial cover, blockfields, and sorted stone polygons in alpine areas

SYMBOLS

Geologic contact: defined, approximate, inferred

Open system pingo, collapsed open system pingo

Thermoklast collapse activity

Landslide movement direction in bedrock and colluvium

Scarp created by widespread landslide movement in drift

Terrace scarp (flood on sloped side)

Degraded Cirque: active during pre-Red Glaciations

Degraded Aikie: active during pre-Red Glaciations

Meltwater channel: flow direction; unknown flow direction

Meltwater channel: large

All time (pre-Red) glacial limit; defined, inferred

Cryoturbation terrace

Tar

Landsform Streamlined by glacial ice

Vertebrate fossil locality

Stratigraphic section

Radiocarbon date in years (lab no.)

Au-Ar radiometric age on basalt

Fault trace

Lineaments (fault, fracture, joint system) defined by linear drainage courses, aligned gaps in ridges, or aligned breaks in bedrock slopes

Abandoned valley: paleoflow defined

Abandoned valley: paleoflow undefined

Paleoflow, suspected buried valley