



LEGEND

Quaternary

Holocene

Unit # Name and Description:

7 **Alluvium: Modern channel and flood plain:** silt, sand, and gravel with organic fragments and lenses; includes all areas that are inundated during normal overbank flooding. Surfaces may be scarred by abandoned channels. Modern channels generally are floored by gravelly to bouldery sediment. Complex fluvial sediment system is commonly capped by 0.5-m of black, fibrous peat.

6 **Big and lake deposits:** Marl, woody peat, and gyttja; depth of peat is generally less than 1 m on poorly drained slopes to greater than 3 m in poorly drained depressions or lakes. Surface vegetation marked by few or no trees.

5 **Fluvial terrace deposits:** Paired and unpaired terraces capped by silty sand, sand, and gravel of former channels and flood plains; comprises 1 to 2 m thick beds lying unconformably on older Quaternary sediments. May be included in unit 7 where vegetation does not permit mapping.

Wisconsin

4 **Proglacial lake sediments:** Clay and silt laminae; Clay laminae are rarely interbedded with fine sand. Beds are usually less than 2 m thick, and are horizontal except where overridden by late glacial readvances, in which case they may be deformed. Over 50 m of laminated silty clay has been observed on acoustic records and in borholes in modern lakes.

3 **Ice-contact stratified drift:** Coarse sand and cobble gravel; contains large and small scale cross bedding, ripple and dune bedding, parallel bedding, and 1 cm to 3 m thick graded beds; bedding may be folded or cut by high-angle reverse faults; sediment in any one deposit can vary from clay laminae to boulder gravel, and large boulders may be distributed randomly throughout a deposit. Landform is commonly hummocky bench or ridge.

3a **Subaqueous outwash deposits:** Sand, cobble gravel, and boulder gravel occurring in a bench or fan; sedimentary and glaciostratigraphic structures similar to map unit 3. Continuous single clay layers or multiple clay and silt laminae interbedded with sand and gravel indicate subaqueous nature; altitude with respect to possible lake outlets and lack of topset beds also supports subaqueous origin.

2 **Lennoxville Till:** Compact to loose, grey-weathering, buff, cobbly till; subequal amounts of sand, silt, and clay in matrix (<2 mm). Compact basal member commonly is mantled by a dense cover of large boulders (ablation mantle). Fabric commonly reflects south-southwest glacial flow, but north of the Québec Ice Divide fabric may reflect northward flow.

2a **Complex of unconsolidated diamict and crudely laminated sand, gravel and silty clay thought to represent subaqueous deposition from ice front:** forms benches low in Chaudière Valley that are indistinguishable from those formed on laminated silty clay into which this unit passes laterally. May be more extensive than shown.

1 **Complex Valley Fill:** Sediments of various facies underlying deposits of the last glacial event; exposed or inferred where proglacial fluvial erosion has excavated more than 3 m of unconsolidated sediment. Generally obscured by thick colluvium and vegetation.

Lower Paleozoic

R **Bedrock:** Closely spaced outcrops of rock covered by less than 1 m of sediment (usually till), or more than 80% surface exposure; Rock surfaces are only slightly weathered and rock is commonly polished, striated, and fresh when covered with vegetation or unconsolidated sediment. Bedrock strikes north-south and consists of steeply dipping, low grade meta-sedimentary and meta-volcanic rocks, with minor intrusive complexes. On some schistose or slaty lithologies, vertically dipping beds or cleavage are defined progressively toward surface, passing upward into till-like diamict.

Geological boundary.....

Meltwater channel (direction of flow unknown).....

Esker (direction of flow known, unknown).....

Mean palaeocurrent direction.....

Mean orientation of elongate pebbles in surface silt (direction inferred, unknown).....

Clacial striae or related erosional marks: (ice flow direction known, unknown).....

Location of measurement is at centre of staff.....

Numbers refer to age of striae in regional sequence, from oldest (1) to youngest (7).....

Location of stratigraphic section.....

Prominent bedrock lineations, mostly reflecting strike of beds resistant to glacial erosion.....

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SURFICIAL GEOLOGY OF THE ST-JOSEPH AREA - QUEBEC

Scale 1:50 000 - Échelle 1/50 000

