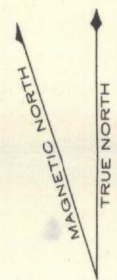


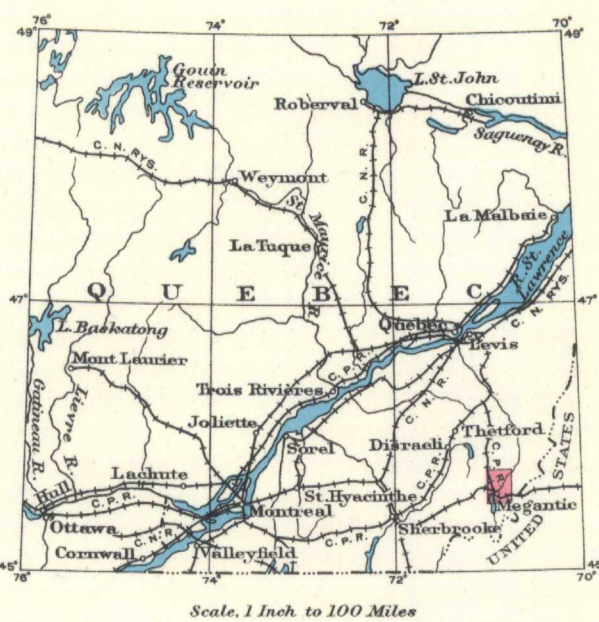
LEGEND

- POST-ORDOVICIAN**
- 5 Biotite granite; quartz-feldspar porphyry dykes
- ORDOVICIAN**
- 4 BEAUCEVILLE SERIES: black slate, interbedded black, impure sandstone and carbonaceous slate, interbedded quartzite and slate
- ORDOVICIAN OR CAMBRIAN**
- 3 Gabbro
- 2 FRONTENAC SERIES: grey, schistose quartzite, minor amounts of slaty strata, and undifferentiated greenstone
- 1 FRONTENAC SERIES: greenstone and associated tuff interbedded with the sediments of the Frontenac series
- Observed outcrop; small outcrop x
- Geological boundary
 Bedding (inclined, vertical, overturned)
 Road
 Road not well travelled
 Trail
 Township boundary

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Approximate magnetic declination, 18° West.



GENERAL GEOLOGY

The area is heavily covered with drift. The scarcity of bedrock outcrops, the lack of fossils and the complex structure prevent making more than tentative statements regarding the relative and absolute ages of the principal sedimentary series. The oldest rocks constitute the Frontenac series (1 and 2), it consists of grey, schistose quartzites with minor slaty members and interbedded greenstones (2) with accompanying green, schistose tuffs. It is probable that some greenish, thinly bedded quartzites are tuffaceous sediments. The quartzites consist of quartz, sericite, some carbonate and a small amount of feldspar. The greenstones exhibit flow and pillow structures. They may have been andesites but now consist almost entirely of alteration products. Bands of grey to cream-coloured, rusty weathering, dolomite and dolomitic quartz-sericite schist accompany the greenstones.

A few medium to coarse-grained, much altered gabbro sills (3) cut the Frontenac, but not the Beauceville rocks.

Owing to lack of bedrock outcrops in critical localities, the relations of the Frontenac series to the presumably younger Beauceville series (4) are unknown. The strata designated Beauceville may be subdivided from southeast to northwest into the following ill-defined belts: (1) A southeast belt of glistening, black, crinkled slates in the vicinity of highway 24, and the east boundary of the map-area; these appear to be missing to the southwest; (2) A broad central belt of black, impure feldspathic and sericitic sandstones and interbedded carbonaceous slates, all with well developed pyrite cubes; and (3) A northwesterly belt in the vicinity of Ste. Cécile mountain, of thinner bedded, prominently cross-bedded quartzites and slates. Throughout cleavage is best developed in the slaty interbeds. All these beds underlie flat to rolling country, in marked contrast to the more rugged terrain underlain by the Frontenac quartzites and greenstones.

Granite (5) forms two bodies within the map-area. The rock is a biotite granite of medium to coarse grain. Neither stock shows much variation even to within a few inches of the contact. The granite bodies cut the neighbouring strata, and have altered these rocks, the alteration extending in places as far as a mile from the contact. Aplitic and pegmatitic facies are rare. A few granite and alkali dykes occur about the Cécile stock. Dykes and sills of grey to greenish quartz-feldspar porphyry intrude the Beauceville rocks, show occasional granitic facies, and appear to be related to the main stocks. Beauceville rocks near the granite have been altered to banded, non-schistose types made up in varying proportions of quartz, biotite, feldspar, andalusite, cordierite and sillimanite. A black, splintery hornstone is locally developed about the south end of Ste. Cécile mountain. Metamorphosed Frontenac rocks characteristically include, in addition to the above, a very coarse-grained, knotted mica schist.

The regional trend of the strata is about northeast. The rocks are closely folded, with angles of dip usually higher than 75°. Folds plunge in either direction, but rarely at angles steeper than 25°. A major anticlinal structure to the southeast is suggested by northwesterly dipping schistosity. Cross-faulting is indicated by a gap in the greenstone band near Ditchfield. Strike faults may be present but have not been observed. The fact that the Spider Lake stock occupies a broad basin may be explained by postulating a barely unroofed stock. A rather gently plunging southwesterly contact is indicated by several small granite outcrops in the vicinity of Popolis village, one mile south of the area, on the west shore of Lake Megantic. Well developed metamorphic aureoles suggest, in general, not too steep intrusive contacts.

The Megantic area has been strongly glaciated, even to its highest points. There is evidence of only one period of glaciation, and the ice moved from northwest to southeast producing two sets of striae, major and minor, at 36° and 20° south of east respectively. Ground moraine forms a persistent mantle, particularly so on the northwest slope of Ste. Cécile mountain. A thick deposit of sand, silt, and banded and concretionary clay forms the flat southeasterly sloping surface west of Drolet. These cover all bedrock in that vicinity, have probably dammed Lake Megantic, and are now exposed in the prominent silt and sand banks along Chaudière and Drolet rivers in that vicinity. Victoria valley is deeply gravel-filled, shows much glacial gravel near its mouth, and was at one time continuous with Chaudière valley. The east shore of Lake Megantic is a gentle gravel and drift covered slope, in contrast to the steeper more rocky western slope.

ECONOMIC GEOLOGY

Auriferous quartz veins and pyritic deposits have been reported to occur within and about the map-area. During the 1935 season, some eighty different prospects and occurrences were sampled and otherwise investigated. The 171 samples yielded nearly consistently negative results. These results, together with information gathered from detailed geological mapping, indicate that there is little evidence to justify further prospecting or mining development within the area.

Barren quartz is common and occurs in irregular bodies in Beauceville and Frontenac rocks. Most of it was probably introduced after the rocks were folded. There is no support for the popular belief that such barren or low grade bodies will show an increase of width and gold content in depth. That the probable source, the underlying granite, was poor in commercial metals is suggested by the general paucity of mineralization about its contacts.

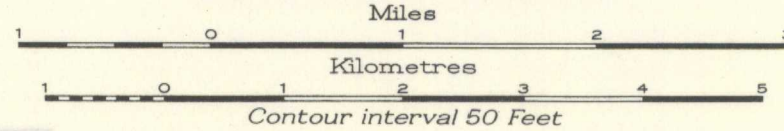
Placer gold has been reported from Victoria river. Only occasional colours can be panned, and as the valley is deeply filled with Glacial and Recent gravels, profitable placers are unlikely to be found there.

Two granite quarries are operated within the Cécile Mountain stock.

MAP 379A

MEGANTIC SHEET
 (WEST HALF)
 FRONTENAC COUNTY
 QUEBEC

Scale, 1/32000 or 1 Inch to 1 Mile



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