

LEGEND

- PROTEROZOIC**
- HURONIAN COBALT**
- 13 Grit
 - 12 Argillite, commonly with interbeds of arkose and quartzite
 - 11 Greywacke, pebbly greywacke, arkose, quartzite
 - 10 Conglomerate
- PRE-COALT ?**
- 9 Diabase
- POST-TIMISKAMING**
- 8 Syenite
 - 8a, syenite breccia (may include some agglomerate and trachyte)
 - 8b, mafic syenite
- TIMISKAMING**
- 7 Meta-diorite (may be pre-Timiskaming)
 - 6 Tuff, agglomerate
 - 6a, trachyte
 - 5 Arkose, greywacke, slate
 - 4 Conglomerate
- KEEWATIN**
- 3 Agglomerate
 - 2 Trachyte, acidic flow breccia
 - 2a, porphyritic trachyte, flow breccia
 - 2b, dyalite
 - 1 Andesite, andesite flow breccia
 - 1a, variolitic andesite
 - 1b, andesite with trachyte and syenite
- PONTIAC GROUP**
- C Granite, granite porphyry
 - E Mafic syenite
 - A Sedimentary mica schist, impure quartzite

Note: Each of the several subdivisions of the Cobalt, Timiskaming, and Keweenaw may occur at more than one stratigraphic horizon

- Broad shear and altered zone Ca
- Carbonized rock K
- Rock outcrop, area of outcrop K
- Geological boundary inferred from magnetometer survey +
- Bedding (horizontal, inclined, vertical, overturned) /
- Bedding (direction of dip known, upper side of bed unknown) /
- Bedding (upper side of bed faces as indicated, direction of dip unknown) /
- Schistosity, (inclined, vertical, dip unknown) /
- Fault or shear zone (defined, assumed) ~~~~
- Synclinal axis ~~~~
- Glacial striae ~~~~
- Prospect pit X
- Adit X
- Diamond drill-hole (vertical, inclined showing horizontal projection) ... o

Note: Geological contacts found in diamond drill-holes are projected up the dip of the formation to the surface, except that those beneath the Cobalt Series are projected to the base of the Cobalt.

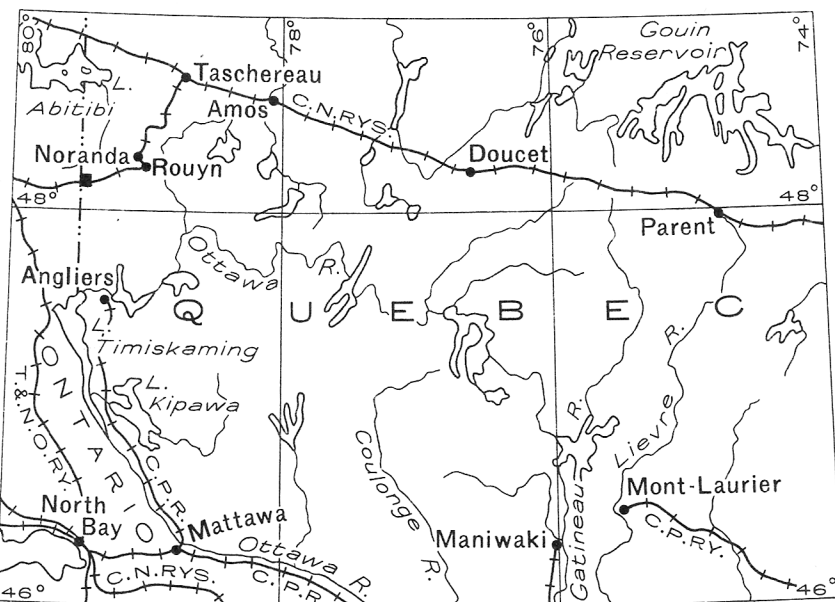
Geology by C. H. Stockwell, 1948-1949

Cartography by the Geological Mapping Division, 1949

- Road ———
- Trail - - - - -
- Building ■
- Provincial boundary ———
- Township boundary - - - - -
- Railway —+—+—+—
- Transmission line ———
- Gravel pit GP
- Swamp ~~~~

Base-map surveyed by Topographical Survey

Approximate magnetic declination 11° 30' West



DESCRIPTIVE NOTES

The Keweenaw lavas have been folded into a tight, westerly pitching syncline with steeply dipping limbs. Rocks of the Timiskaming series have been deposited on the south limb of the syncline, giving a back to back relationship between the two series and evidence of an important structural unconformity between them. The Pontiac group of metamorphosed sedimentary rocks has been found in Rouyn township, to underlie the Timiskaming, but its relationship to the Keweenaw is unknown. All of these rocks are overlain unconformably by those of the Cobalt series. These form an irregular basin-like structure, which, in the central part, extends to a depth of 2,000 feet or more.

A few diamond drill-holes have been put down through the Cobalt rocks and into the underlying, more favourable, formations, but the expense involved has discouraged any extensive exploration. The objective of this drilling has generally been to locate the Larder Lake-Cadillac fault zone. Interest in this zone lies in the fact that many deposits of gold have been found near or within it both west and east beyond the limits of the Cobalt series. Its location, therefore, beneath the Cobalt would be of considerable assistance in further exploration, and although it cannot be stated that this has been done, at least some evidence for the fault has been found, and its possible position is indicated on the map.

That it is possible to find evidence of this essentially pre-Cobalt fault by an examination of the Cobalt rocks themselves is due to the fact of a late, post-ore, recurrence of movement along it, and to the probability that this late movement took place subsequent to the deposition of the Cobalt series. Although the late movement brought about only a slight displacement of the Cobalt rocks, it was, nevertheless, sufficient to cause a topographic depression, which serves as a ready means of tracing the course of the fault. It is on the basis of topography alone that the fault is tentatively drawn through the central part of the map-area where the geological mapping has not been completed. Many stringers of quartz and a little red feldspar fill fractures in the valley walls, giving further evidence of movement. Several other east-west faults of quite similar character also cut the Cobalt series, but the one under present consideration probably marks the position of the Larder Lake-Cadillac break. This is indicated by two lines of evidence. First, the fault lies on the extension of its presumed position in southeast Dasserat township. Second, in the western part of the map-area, the fault lies at about the locality expected, after taking into account an offset of about 5,000 feet along the northeast-trending Milky Creek fault. This is in agreement with a similar, left-hand, displacement of the Keweenaw-Timiskaming contact, and of a synclinal axis in the Keweenaw rocks. It is probable that this large displacement occurred chiefly in pre-Cobalt time. A recurrence of movement along the same cross-fault in post-Cobalt time brought, in effect, the southeast side up a distance probably in the order of 500 to 1,000 feet. This conclusion is based chiefly on an apparent repetition of beds of argillite and conglomerate as shown on the map.

It is not known whether other east-west faults that cross the Cobalt series mark the positions of sheared or mineralized zones beneath the Cobalt. Near one of these, which has been named the Breen fault, several fracture zones are mineralized with quartz, red feldspar, and chalcopryite. The post-Cobalt sulphide mineralization at this locality contrasts with the generally barren aspect of veins elsewhere in the Cobalt series of this district.

The position of the Horne Creek fault, which is indicated on the adjoining map-sheet to the east, has not been traced through the present map-area. However, a band or break in the diabase dyke at a point 600 feet south of the highway, and a post-Cobalt fault along Kag Lake, lie along the westerly extension of its general trend and may represent the Horne Creek or some related fault.

The Keweenaw and Timiskaming rocks that outcrop north of the area of Cobalt sediments are cut by many faults, trending in various directions. As a rule, those that trend approximately east-west show most evidence of mineralization and alteration. Carbonatization is the prevalent type of alteration, and this, in places, accompanied by the addition of pyrite and quartz. Most extensive carbonatization has occurred in small areas of Timiskaming rocks from 1 mile to 2 miles east of Lake Maron, where several wide zones of carbonized schist were trenced many years ago but have received little attention lately. Trenching and diamond drilling have been done in and near small bodies of syenite that invade Timiskaming rocks southwest of Lake Maron, and considerable surface work has been carried out in the Keweenaw rocks immediately west and south of Renault Bay.

Although no noteworthy deposits have been discovered within the map-area, there is sufficient evidence of widespread gold mineralization and of favourable structures to warrant further work.

PRELIMINARY MAP 49-23
SOUTHWEST DASSERAT
QUEBEC

Scale: 1 Inch to 1,000 Feet

1,000 0 1,000 2,000 3,000 4,000