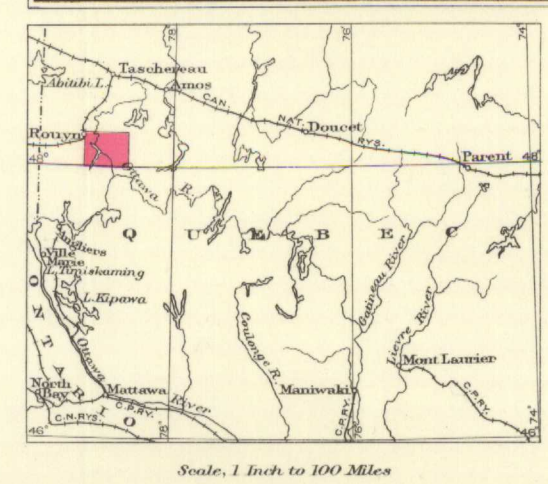
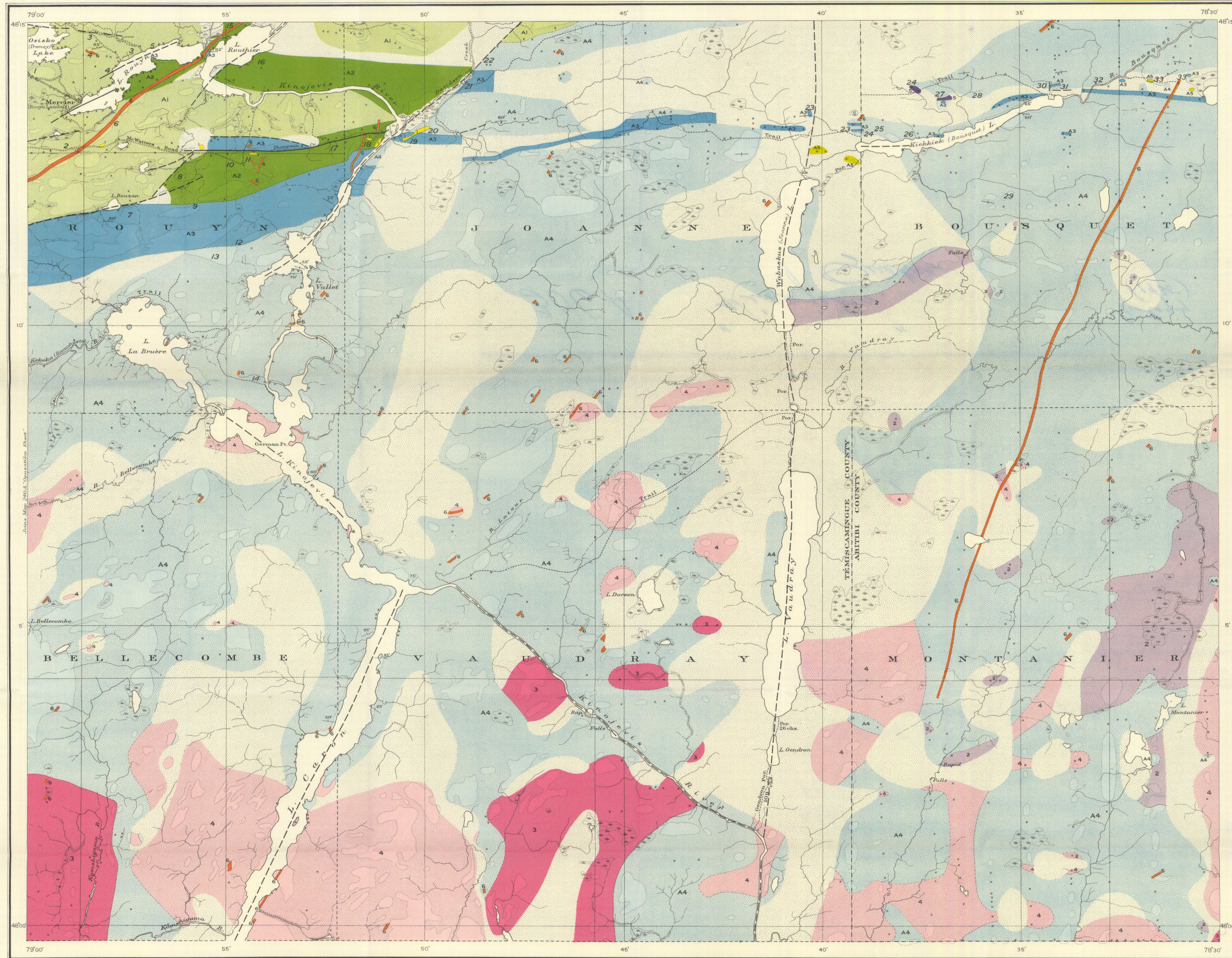


Issued 1935



Approximate magnetic declination
 1935

MAP 306 A
KINOJEVIS SHEET
 TÉMISCAMINGUE AND ABITIBI COUNTIES
 QUEBEC

Scale, 63360 or 1 inch to 1 Mile
 Miles
 Kilometres

Legend

Road and buildings
 Road not well traveled
 Bush or winter road, trail or path

County boundary
 Township boundary
 Marsh

Surveys by Topographical Division, Bureau of Economic Geology,
 Department of Mines and the Department of Lands and Forests, Quebec.
 Compilation of aerial photographs supplied by the Topographical and
 Air Survey Bureau, Department of the Interior.

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306A

LEGEND

POST-TIMISKAMING

6 Olivine gabbro, quartz gabbro
 5 Quartz porphyry
 4 Granite
 3 Porphyritic syenite
 2 Augite syenite
 1 Quartz diorite ("older gabbro")

TIMISKAMING SERIES

A5 Altered volcanics
 A4 Greywacke with some arkose, slate, etc., and probably lenses of conglomerate; rocks are mainly mica schists
 A3 Conglomerate with some greywacke

KEEWATIN SERIES

A2 Tuff, slate, agglomerate, conglomerate (?)
 A1 Andesite, rhyolite, minor amounts of other lavas and of tuff; small intrusions of quartz diorite; rocks are mainly schists

Symbols

Drift covered areas in which bedrock outcrops are few or lacking. Small rock outcrops: x

Geological boundary (defined)
 Geological boundary (approximate)
 Geological boundary (assumed)
 Folding (inclined, vertical) representing general structure
 Fault and/or shear zone (defined, inferred)
 Glacial striae
 Mineral property

INDEX TO MINERAL PROPERTIES

- Farrell Rouyn Mines, Ltd.
- Fiske Gold Mines, Ltd.
- Wilfong-Coghlin Mines, Ltd.
- Ousko Rouyn Exploration Co., Ltd.
- Christie Claims
- Rouyn Lake Gold Mines, Ltd.
- Dransfield Claims
- Kinojevis Mining Co., Ltd.
- West McWatters Syndicate, Ltd.
- Arno Mines, Ltd.
- McWatters Gold Mines, Ltd.
- Sylvanite Gold Mines, Ltd. (Option)
- Adanae Gold Syndicate
- Preigent Claims
- Saguin Rouyn Gold Mines, Ltd.
- Goldstrike Syndicate
- East Rouyn Gold Mines, Ltd.
- Thompson Claims
- Northern Aerial Minerals Exploration, Ltd.
- Harper Group
- Teak-Hughes Gold Mines, Ltd.
- Rouyn Swayze Gold Mines, Ltd.
- Polson Claims
- King Claims
- De Cour Claims
- Ouellette Claims
- Calder-Bousquet Gold Mines, Ltd. (Calder and McWatters)
- Manning Group
- E. B. Syndicate
- Norgold Mines, Ltd.
- Golden Quebec Mines, Ltd.
- Northwestern Quebec Prospectors
- Thompson-Shannon Group
- Sudbury Contact Mines, Ltd.

GENERAL GEOLOGY

The area is one of rather low relief, except for hills in the vicinity of the McWatters mine, near Kiekiek (Bousquet) lake, and in the southern part of the area. In general rock exposures are not plentiful, and in some localities the overburden of clay and gravel is very deep.

All the rocks are of early Precambrian age excepting the later gabbro dykes which, although Precambrian, are somewhat younger. All the rocks have suffered metamorphism, and many are now schists of various kinds, whose original natures can in some cases only be inferred.

KEEWATIN SERIES. The oldest rocks (A1) are steeply folded, altered volcanics, the greater part of which although much altered to chlorite and other minerals, show evidence of having originally been andesites. In some cases pillow structures survive. Altered rhyolite and rhyolite breccia occurs south of Ousko (Tremoy) lake and between L. Rouhier and Davidson creek. Small lenses of tuff and a little chert are found in a few places.

A formation of greatly deformed and altered sedimentary rocks (A2), generally tuffaceous, occurs at several localities. Along the southeast shore of L. Rouyn this formation is composed of slates, argillites and luffs. A poorly developed conglomerate which does not resemble the Timiskaming conglomerate occurs on the main promontory of L. Rouyn and at two localities on the northwest shore of L. Rouhier. Tuff, agglomerate, and a rock resembling an intensely deformed conglomerate outcrop on the claims of Saguin Gold Mines, Ltd. A few scattered outcrops of argillites, tuffs, and agglomerates occur north of Kinojevis river between L. Rouhier and Davidson creek. A belt composed chiefly of tuffs and a rock that contains extremely deformed fragments of volcanic material and that was originally either a conglomerate or an agglomerate, extends from east of L. Bouzau to the Kinojevis river and includes the McWatters mine. The rocks of this belt although not lithologically identical with the other Keewatin sediments (A2), have been classed with them. The available structural information indicates that the Keewatin sedimentary formation (A2) occupies a stratigraphical position between the Keewatin lavas (A1) and the Timiskaming conglomerate (A3). Within the Kinojevis area this formation has not been recognized east of the Davidson creek fault although it might be expected at the Keewatin-Timiskaming boundary east of Davidson creek. Here there are a few outcrops of hornblende-mica schist, whose original nature is doubtful, but because the schist resembles some of the metamorphosed Timiskaming greywacke (A4) these rocks are grouped tentatively with the Timiskaming.

TIMISKAMING SERIES. The Timiskaming conglomerate (A3) contains pebbles of Keewatin rocks and of granitic material derived from some early granite not yet recognized in place but evidence of structural unconformity between the Keewatin and Timiskaming strata is lacking in the Kinojevis area. The principal exposure of the conglomerate is a well defined band extending west from the Davidson Creek fault. To the east the conglomerate occurs as a series of nearly parallel bands and lenses separated by greywacke.

The bulk of the Timiskaming rocks is of various kinds of mica schists which generally show evidence of having been greywacke. Some altered quartzite, arkose and argillite is also found. Small areas of altered andesitic rock occurring southwest of Kiekiek (Bousquet) lake and south of R. Bousquet are probably Timiskaming lavas but possibly are Keewatin rocks brought into their present position by folding or faulting.

INTRUSIVES. The oldest intrusive is the quartz diorite ("older gabbro") (1) which in small, irregular bodies cuts Keewatin and Timiskaming rocks. Instead of sharp contacts these bodies frequently present a poorly defined outer zone in which the intrusive grades into the host-rock.

The Timiskaming rocks are invaded by related bodies of granite (4), syenite (2 and 3), and pegmatite. Small bodies of porphyry (5) occur near the McWatters mine and north of L. Bousquet.

The youngest intrusives are gabbro dykes (6) which locally exhibit diabasic texture. Some of these dykes are remarkably persistent.

STRUCTURAL GEOLOGY

The Keewatin and Timiskaming strata are closely folded, and the structure is complicated by drag-folding and faulting. West of the Davidson Creek fault the folds are believed to be overturned so that the axial planes dip north. To the east the folding is so complex and outcrops are so scarce that any interpretation of the folding as a whole is as yet impossible.

Widespread faulting and shearing has produced zones rather than sharply-defined breaks, and the zones are of various lengths and widths. It is difficult to distinguish between shear-zones and fault-zones, since many of the zones are parallel to the strike of the strata and any displacement is not apparent unless an intrusive has been offset. Since mineralization is found in or near parts of many of the zones, it is assumed that most of the movement antedated the mineralization. A late gabbro dyke has been displaced by the Thompson Creek fault. It seems reasonable to assume that movement occurred at different times and in some cases along the same zone. The presence of these zones may be indicated by displacement of the rocks; exposures of sheared strata; depressions produced by erosion along the lines of shearing; the depressions being frequently occupied by long, relatively straight streams and lakes; or by the results of diamond drilling, sections of core being frequently lost when a shear-zone is penetrated.

The mineral deposits occupy zones of shearing or fracturing almost all of which parallel the strike of the Keewatin or Timiskaming rocks in which they occur. A zone may contain a single quartz vein or a series of more or less lenticular quartz veins or stringers or the sheared rock may be replaced by silica, and in some cases carbonates, and impregnated with sulphides. Probably the commonest type of mineral deposit is a shear zone containing one or more quartz veins, stringers, or lenses separated by silicified or otherwise altered rock, both the quartz and altered rock containing disseminated sulphides, the sulphides frequently being most abundant in the altered rock just at the contact with the vein-quartz. Black tourmaline is a frequent gangue mineral. The most common sulphide is pyrite, but pyrrhotite and chalcopyrite are often present in smaller quantities. Small amounts of arsenopyrite and sphalerite occur on some properties. Gold occurs in varying quantities both free and associated with sulphides, and no broad generalization can yet be made as to which sulphide is the most favourable gold associate. In some cases the gold is visible; in other instances, although not visible in the hand specimen, gold can be panned after crushing and roasting; and in other cases, where the gold is intimately associated with sulphides, assays may be obtained from samples which would not pan. In many cases the gold distribution is erratic, so that a practical estimate of the content can be obtained only from the averaging of a large number of channel samples or from a mill-test on a large bulk sample.

From the standpoint of the known mineral occurrences, the northern half of Kinojevis area may be divided into three sections. The most westerly extends as far east as the Davidson Creek fault. Here mineralization has been found in Keewatin lavas, in the tuffs and agglomerates, in Timiskaming conglomerate, and to some extent in the greywacke. The veins and replacements occur in or near zones of faulting or shearing and it is these structures and not the rock types that seem to be the controlling factor.

The central section extends from the Davidson Creek fault to the Robertson-Vaudray zone which extends northward from L. Vaudray. Mineralization has been found immediately east of the Davidson Creek fault. Little has been discovered elsewhere in this section probably due as much to the scarcity of outcrops as to changed geological conditions. On the Polson claims mineralization occurs striking north in what is probably a minor fault associated with the Robertson-Vaudray zone.

In the eastern or Bousquet section mineralization has been found at intervals along a general zone extending from the Joanne-Bousquet line easterly towards the Cadillac occurrences. This zone includes mineralization on the following properties: King, Calder-Bousquet, Manning, Norgold, Golden Quebec, Thompson-Shannon, and Sudbury Contact. A southern zone lying just north of the west end of L. Bousquet, includes mineralization on the Polson, King, DeCour and Ouellette claims. In both zones, the mineralization occurs either in or near lenses and bands of deformed Timiskaming conglomerate. Small stringers and lenses of quartz have been noted elsewhere in the greywacke, but the conglomerate appears to have acted as a more competent member causing more persistent shears and fractures to develop in its vicinity.

RELATED PUBLICATIONS

SUMMARY REPORT, PART C, 1924 (pp. 89-125). Clifley and Kinojevis map areas, Témiscamingue and Abitibi counties, Quebec; by W. F. James and J. B. Mawdsley.

MEMOIR 166: Geology and Ore Deposits of Rouyn-Harricana Region, Quebec; by H. C. Cooke, W. F. James, and J. B. Mawdsley.

Publication No. 2359