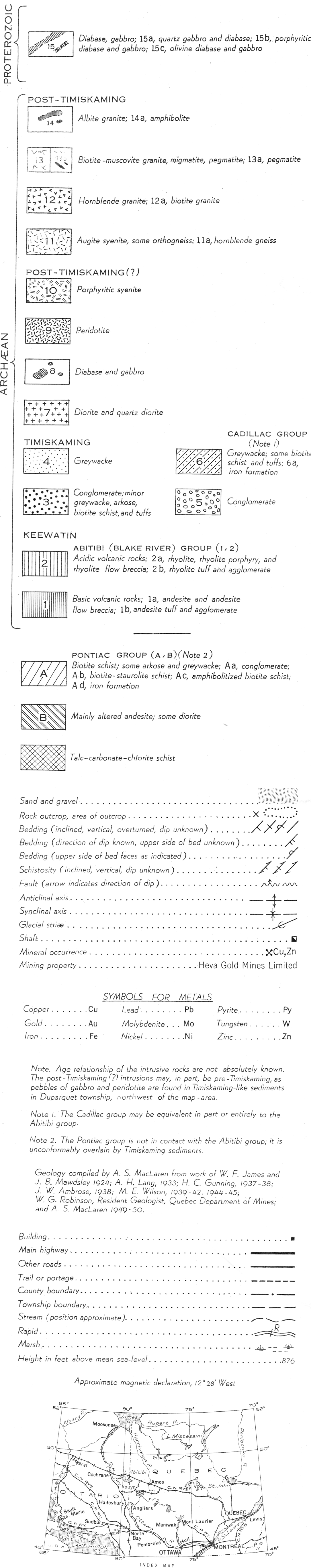


LEGEND



DESCRIPTIVE NOTES

The map-area occupies part of the glacial Lake Berou-Capway Plain. It has a relatively low undulating surface broken by areas of rock outcrop rising to a maximum height of 150 feet in southern Montaner and Vaudrey townships. A prominent esker trending north lies on the east side of Vaudrey and Joannes Lakes. Glacial lake-clays and some sand cover the area between outcrops to a maximum depth of about 100 feet. The most economic of the surface deposits are the esker gravels used in road surfacing.

The oldest rocks comprise east-trending belts of volcanic and sedimentary strata. The Abitibi group consists of extrusive andesite, andesite flow breccia, and related tuff and agglomerate (1) overlain by rhyolite, diorite breccia, and rhyolite tuff and agglomerate (2). The basic volcanic rocks are altered to secondary minerals, but top determinations can be made from pillow structures in most exposed areas. The porphyritic rhyolite lack flow structures and are, in part, intrusive.

Pontiac sedimentary rocks (A) are now largely altered to biotite and biotite-staurolite schists, but include some bands of phyllite and tuff. Magnetite iron formation (Ad) is found along Vaudrey Creek corresponding with high-anomalous on the airborne magnetometer map<sup>1</sup>. Minor bands of conglomerate (Aa) containing syenite and schist pebbles lie in Bellecombe township and in Bousquet township south of the eastern end of Bousquet Lake. Volcanic rocks (B) of the Pontiac group, with some diorite, are interbedded with the sedimentary strata, and are all intensely altered; pillow structures are most evident in the area west of Kinojevis River in southern Bousquet township.

Timiskaming sedimentary rocks (3, 4) form an easterly trending belt one half to one mile wide extending completely across the map-area. Two small areas of these rocks lie north of McWarren, one between Bellecombe and the Cadillac fault zone and the other between this zone and the Abitibi volcanic rocks. The lower Timiskaming member (3) is mainly conglomerate, with minor greywacke, arkose, and mica schist. East of the Kinojevis, the finer grained beds increase in amount and the conglomerate is confined to several narrow bands. The upper member (4) is mainly greywacke, with some biotite schist, tuff, and phyllite. Material of the conglomerate ranges from ovoid to rounded pebbles one quarter inch in diameter to angular blocks 5 feet square, and consists of cherty greywacke, andesite, granite, porphyritic syenite, and rhyolite. Near the base of the main conglomerate member (3) only biotite schist pebbles, identical in composition with the Pontiac schist, are found. Gneissolite is a common feature of the finer grained strata. The Timiskaming rocks rest unconformably on Pontiac beds in Bousquet township west of the esker.

Sedimentary beds of the Cadillac group (5, 6) overlie the Abitibi volcanic rocks. They consist of conglomerate (5), which occurs in different facies, and greywacke, biotite schist, phyllite, and tuff (6). The finer grained strata contain numerous beds of siliceous magnetite iron formation. West of the Davidson Creek fault, cherty greywacke was observed among the five Cadillac strata, but very little conglomerate.

Intrusive rocks within the map-area vary in composition from peridotite to biotite-muscovite granite and alkali granite. The peridotite (10) of Bellecombe and Vaudrey townships does not appear to be in fault zones or to be of the differentiated or sill type. It has been found along the Cadillac fault zone by drilling on the Cedar Bousquet property.<sup>2</sup>

Both porphyritic syenite (10) and augite syenite (11) occur as stocks and bosses within the Pontiac schists. Some of the porphyritic syenite may be of pre-Timiskaming age, as pebbles of a rock resembling it are found in the Timiskaming conglomerate. Diorite and quartz diorite (7) and minor diorite and gabbro (8) are associated mainly with Abitibi flows, and may be of Abitibi age.

Hornblende granite (12) and biotite granite (12a) are found as stocks and bosses within the Pontiac schists. The biotite granite is in part foliated. Hand specimens are pinkish grey, and contain sodic plagioclase, quartz, and biotite. Some stocks are porphyritic, with feldspar phenocrysts 4 to 8 mm. in length.

The biotite-muscovite granite, migmatite, and pegmatite (13) form part of a large intrusive mass in the southern part of the area. It is similar lithologically to the Lacome mass<sup>3</sup>, and contains apophyllite, beryl, and molybdenite in small amounts. The pegmatite is characterized by glaucous muscovite and brookite of bismite, and is bedded in places along Lac Camu. Garnets are common, and albite and microcline are the principal feldspars; some dikes contain albite crystals up to 10 inches in diameter.

Diabase and gabbro dikes (15) are prominent features of the map-area, where they intrude rocks of all other types. Both diabasic and gabbroic textures have been observed in a single dike. The dikes outcrop at intervals along their course, weather gray to brown, and, typically, are fractured at right angles to their trend. Locally they contain segregations of chalcopyrite, pyrrhotite, and magnetite.

The aeromagnetic map of this area<sup>4</sup> indicates fairly strong anomalies around the syenite bodies (10, 11), and chalcopyrite and pyrite are found in veins around the edges of these bodies. The trends of the younger gabbro and diabase dikes (15) correspond with those of magnetic anomalies, cutting across the general east-west trend of the volcanic and sedimentary rocks. The dikes, 3,000- to 6,000-gamma magnetic contours in western Bousquet township are due in part to the presence of siliceous iron formation and partly to peridotite. The 3,000- to 4,000-gamma contours that appear near the northern edge of the aeromagnetic map<sup>1</sup>, north of Lac Bousquet, are also due to iron formation. Magnetic anomalies trending north of area in Bellecombe township are attributed to bodies of volcanic rocks and peridotite in Pontiac biotite schist. The locus of the Cadillac fault zone is not prominently shown on the aeromagnetic map, but the bend at the western end of the Smead-Cross fault coincides with a band of rise isomagnetic lines to the southeast. Further southeast, however, these diffusions do not continue, being probably obscured by interference of local anomalies around gabbro dikes and syenite bodies.

Mineral production in the map-area has come from gold mines adjacent to the Cadillac fault zone or subsidiary dike zones. Some of the mineralization has been carried out in Pontiac rocks south of the main Timiskaming belt. Many quartz veins occur in the schists both parallel with and cutting across the bed. Most of these are barren, but a few carry a little chalcopyrite, pyrite, and pyrrhotite. Segregations of chalcopyrite, pyrrhotite, and magnetite occur in the younger gabbro and diabase dikes. Within recent 100 years Bousquet township, small amounts of copper, iron, zinc, and some nickel occur in gneisses within the Pontiac volcanic rocks. In range N. Bellecombe township, south of Mount Carey, sulphides of copper, iron, and lead occur in quartz veins in Pontiac biotite schists. Minor amounts of sulphides have been found in quartz veins within Pontiac biotite schist around Lac Du Chateau. The pegmatites in Bellecombe township carry some specimens of beryl, and molybdenite, but no economic deposits of these minerals have been found.

<sup>1</sup>Geol. Surv., Canada, Geophysics Paper 19, Kinojevis, Quebec.  
<sup>2</sup>Robinson, W. G.: Que. Dept. Mines Township Maps: Bousquet Township, Quebec.  
<sup>3</sup>Timberville, L. P.: Piedmont Map Area, Abitibi County, Quebec.  
<sup>4</sup>Geol. Surv., Canada, Mem. 253, 1950.

PRELIMINARY MAP 52-6  
KINOJEVIS  
TIMISKAMINGUE AND ABITIBI COUNTIES  
QUEBEC

Scale: 30,000

Miles