

GM 08967

REPORT ON A RECONNAISSANCE TRIP IN THE OTISH MOUNTAINS' AREA

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Report on a Reconnaissance Trip

in the

Otish Mountains' Area

On August 16, 1959, the writer accompanied Dr. R. Bergeron, J. Bérard and E. Chown of the Geological Surveys Branch, Quebec Department of Mines, on a reconnaissance trip in the area of the Otish Mountains. This trip was organized by the Surveys Branch of the Department to gather some first-hand information on the Otish Mountain area. The following is a brief report of the writer's observations while on this trip.

Included with this report is a sketch map of the Otish Mountain area showing the general geology and also the line of flight through the area (dashed red line) and the locations of the five points where ground observations were made (circled in red).

Leaving Bérard's camp on the Temiscamie river north of Bethoulat lake, we flew north to the area west of Indicator lake where the first landing was made.

STOP # 1 : This first stop was near a boulder field which stood slightly higher than the surrounding area and although no true outcrop was found, there is little doubt but that the numerous angular boulders of quartzite are

representative of the bedrock in the immediate area.

The boulders observed are of greenish-grey, white and pink quartzite of a pure nature. The three colour varieties are interbedded and the bedding is quite distinct; cross-bedding is also present.

According to E.H. Chown, these quartzites are similar to those he is presently mapping in the Papaskwasati river area at the north end of Mistassini lake; they differ, however, in that there is no pink variety and the bedding is less distinct in the Papaskwasati quartzite formations.

In the area between stops # 1 and # 2 we saw many step-like hills, or cuesta forms, with steep talus slopes on the north or north-northwest side and gentle slopes on the south side, indicating quartzite formations striking east-northeast with low dips to the south. In places, nearly horizon formations are indicated.

STOP #2: The second stop was made on the northwest side of Pluto lake. The rock at this locale was massive, coarse-grained, ophitic-textured gabbro. This large mass of gabbro apparently extends at least 4 or 5 miles northeast of Pluto lake.

Between Pluto lake and Cow lake, the same cuesta-like mountains were observed.

STOP # 3: Ground observations on the southwest shore of Cow lake show that the bedrock is composed of quartz-feldspar-biotite gneiss which is mixed with much granitic material. The gneissose structure strikes 110° and has a vertical dip.

Leaving Cow lake we flew south across the nose portion of the mountainous belt. Minor fold structures or crumplings of the quartzite formations were seen on the slope of one of the hills about 4 miles northeast of stop # 4. These minor folds have an amplitude of a few hundred feet and the axes have but a low plunge in an easterly or southeasterly direction.

STOP # 4: This stop was made on the southeast side of a small lake directly within the Otish Mountains and near the northeast extremity of the mountainous belt.

The rocks in the area consist of white and pink quartzites; the formations strike 70° and have but a low dip to the south. Looking east from this locality onto a north-trending range of hills, there was seen a well defined synclinal fold-axis. This appears to be the axis of a major fold structure. The axis strikes about 70° and has but a low plunge to the east. Near the axial plane of the syncline, the limbs dip from 30° to 40° but the dip decreases with increasing distance from the axial plane.

In addition to quartzite there is also a amount of gabbro at this locality. Large outcrops of gabbro are present both at the northeast end and south of the lake where stop # 4 was made. These outcroppings occur on either side of the observed fold axis suggesting that these are exposures of one and the same gabbro sill which is folded across the observed synclinal axis.

STOP # 5: The rocks in this area are similar to those encountered at stop # 3 and consist of biotite-rich gneiss mixed with much granite; in general, these rocks give the impression of a mignatite.

Summary and Conclusions:

All these observations are recorded on the accompanying sketch map. In addition, the probable outline of the area underlain by the quartzite formations is indicated. The general structure, at least in the area of the Otish Mountains, appears to be synclinal; the axis of this major syncline either coincides with the synclinal axis observed at stop # 4 or else must lie nearby.

The strike and dip determinations shown at the corner of the 52° N parallel and the 71° W meridian were secured from an unpublished and confidential company report (La Compagnie Minière d'Ungava). According to this report, the

sedimentary formations in the Otish area consists of quartzite and some conglomerate and they are said to resemble the succession of rock in the Blind River area and the Witwatersrand system in South Africa.

Date of field trip: August 16/59

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