

GM 15276

GEOLOGICAL REPORT, MANICOUAGAN-MUSHALAGAN LAKES AREA

Documents complémentaires

Additional Files



Licence



License

Cette première page a été ajoutée
au document et ne fait pas partie du
rapport tel que soumis par les auteurs.

Énergie et Ressources
naturelles

Québec 

CTCF 32 10-1

DEPARTMENT OF MINES AND TECHNICAL SURVEYS

ERR:BP

file

472

MEMO TO: Dr C. S. Lord,
Acting Chief Geologist.

ENTD JUL 15 1954
h.

DATE: July 12, 1954.

SUBJECT: Manicouagan-Mushalagan Lakes Area, Québec

C.S.L. 13 Jul 54

The following brief account is intended to outline the general geology of the Manicouagan-Mushalagan Lakes Area and to serve as a preliminary account of my field work there as a member of the Dominion Observatory expedition to the area in June 1954.

Manicouagan and Mushalagan Lakes are long, sinuous and deep bodies of water that occupy parts of deep valleys in foliated Precambrian rocks. The pattern of the lakes and the extensions of their valleys at the northern and southern ends forms a circular map feature some forty miles in diameter that includes an area of some 1,200 square miles of rough, bush-covered, lake-studded, glaciated terrain. Mushalagan Lake, elevation 745 feet, drops through a series of falls, chutes and rapids at its southern end to meet Manicouagan Lake, elevation 640 feet, at its southern end and together they continue as the Manicouagan River in a deep valley south to the St. Lawrence. The highest hills within the perimeter of the two lakes attain elevations of approximately 3,200 feet, comparable to that of the highest hills in the region beyond. The valleys of Manicouagan and Mushalagan Lakes are encised in Grenville type rocks, mainly granitic and garnetiferous gneisses, but including bands of schist, amphibolite, crystalline limestone, quartzite, syenite, granite, metadiorite, and dykes of gabbro and pegmatite. Several outcrops of more or less folded Palaeozoic (Ordovician) limestone occur on the inner shores of each lake. These Palaeozoic rocks in places rest directly and unconformably upon granitic gneisses, schists and pegmatite. Inward from the lakes outcrops of volcanic rocks including reddish brown felsite, brownish trachyte, trachytic tuff and agglomerate, greyish green andesite and chocolate brown basalt are to be found, and most of the central area between the lakes appears to be built of these rocks. Apart from a pronounced rhombohedral joint pattern and some vesicles, these rocks appear structureless and undeformed, but they seem to form part of a circular core or plateau around which the lake valleys are formed. A few exposures of garnetiferous gneiss in the central area between the lakes suggests that such rocks form part of the floor there, upon which the volcanic rocks were extruded.

Direct contacts of Ordovician limestone and volcanic rocks were not seen, except in one outcrop on the west shore of Manicouagan Lake, where a two-foot dyke of greenish grey, vesicular andesite intrudes crumpled beds of grey, fossiliferous Palaeozoic limestone. The lithological similarity of the dyke to certain rocks in the volcanic plateau suggests that they may be of post Middle Ordovician age.

21-R-1

<p>Ministère des Richesses Naturelles, Québec</p> <hr/> <p>SERVICE DES GITES MINÉRAUX</p> <hr/> <p>No GM- 15276</p>

Heavy glaciation of the area from the north is shown by semi-parallel arrangement of drift ridges, valleys, drumlins and eskers, and by large erratics and boulder dumps. The valleys of Manicouagan and Mushalagan Lakes are terraced in part with flat-lying deposits of stratified sand and fine grey clay of Recent, possibly marine, origin. The most recent sand beaches on the rivers and lakes characteristically carry concentrated bands of magnetite and garnet in natural emery sands.

No direct evidence was seen to prove the suppositions that the circular feature outlines either a giant meteorite or volcanic crater, but neither theory was disproved. An alternative theory may be advanced promoting a complex history of origin of this unique circular map feature.

E. R. Rose.