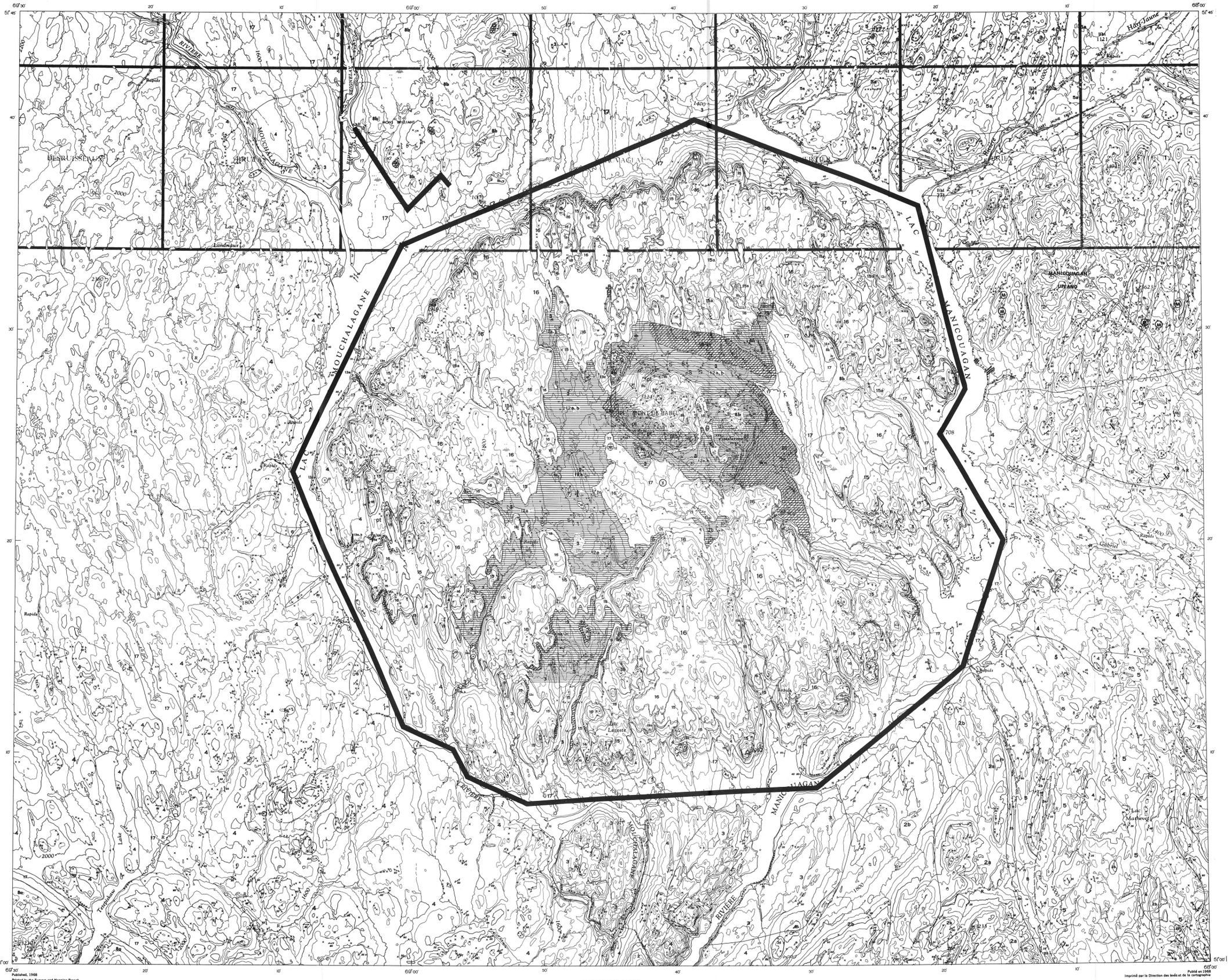
MINISTÈRE DES RICHESSES NATURELLES
DIRECTION GÉNÉRALE DES MINES

DEPARTMENT OF NATURAL RESOURCES
MINES BRANCH



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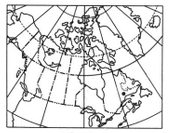

INDEX MAP—LIEU DE LA CARTE

MAP 28-1967 CARTE

GEOLOGY-GÉOLOGIE

LAC MANICOUAGAN

QUÉBEC

Scale 1:126,720 Échelle
1 inch to 2 miles — 2 milles au pouce
Miles 2 0 2 4 6 Milles
Kilometres 3 0 3 6 9 Kilomètres

To accompany paper by J.G. Murtaugh
Annexé à l'étude par J.G. Murtaugh

D.P.V. 432

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Publié en 1968

22 N/NW	22 N/NE	22 O/NW
22 N/SW	22 N/SE	22 O/SW
	22-1967	
22 K/SW	22 K/SE	22 J/SW

NATIONAL TOPOGRAPHIC SYSTEM REFERENCE
SYSTÈME NATIONAL DE RÉFÉRENCE CARTOGRAPHIQUE

LEGEND

CENOZOIC

17 GLACIAL DEPOSITS, ALLUVIUM	Till, outwash; alluvium.

MANICOUAGAN COMPLEX

MESOZOIC (TRIASSIC)

CONTACT METAMORPHOSED COUNTRY ROCKS	Bedrock of shock stages 0, I, and II contact metamorphosed by units 16 and 15. Rocks with decomposed mafic minerals, zeolitized rocks, hornfelsed anorthosite, and melted and vesiculated gneisses.
16 MONZONITE	Medium to coarse-grained, brown, grey, or red massive rock with lath-shaped pyrozene phenocrysts. (May be younger than unit 15.)
15 LATITE	Aphanitic to fine-grained brown, red, or grey massive rock. (15a) Medium-grained latite. May belong to unit 16 or transitional between 15 and 16.
14 BASALT	Aphanitic black rock, locally glassy, locally vesicular. (14a) Red or greyish-black spherulitic rock that grades to basalt (14), red breccia (13c), and suevite (13b).
13 BRECCIAS	(pt) Pseudotachylite. Veins and dikes. (13a) Autochthonous breccia. Rotated fragments in comminuted matrix. (13b) Suevite. Brown, green, or red polymict breccia with heterogeneous glasses and mixed shocked and unshocked fragments. (13c) Red breccia. Nearly monomict breccia with heterogeneous glasses and shocked fragments. May be correlative with suevite (13b).
pt PSEUDOTACHYLITE	
12 SHOCK METAMORPHOSED COUNTRY ROCKS	Rocks of shock stages 0, I, II of Stoffler (1971). Shock stage 0 not shown on map (see text). (12a) Shock Stage I. Planar features in quartz and feldspar, deformation bands in hornblende. (12b) Shock Stage II. Diaplectic glass (formed by shock in the solid state).
12a 12b	

PALEOZOIC (ORDOVICIAN)

11 SEDIMENTARY ROCKS	Limestone; minor shale and siltstone.

PRECAMBRIAN?

10 MICA-AMPHIBOLE PERIDOTITES	Unmetamorphosed mica-amphibole peridotites.

PRECAMBRIAN

9 BASIC DIKES	Basalt and diabase: partly recrystallized and locally metamorphosed to amphibolite facies.
8 ANORTHOSITES	Metamorphosed garnetiferous anorthosites, minor gabbroic anorthosite including minor peridotites, pegmatites, and a breccia pipe. (8a) Lake Tetepisca anorthosite. (8b) Mount de Babel anorthosite.
7 BASIC AND ULTRABASIC ROCKS	Raudot Lake layered intrusive massif; Brien anorthositic gabbro. (7a) Ultrabasic rocks. (7b) Coronitic gabbro.
6 GAGNON GROUP (GRENVILLE SUPERGROUP?)	Brecciated metaquartzite (6?), white metaquartzite, ferruginous metaquartzite, iron formation, marble, well-banded graphitic paragneiss, muscovite-bearing quartzofeldspathic gneiss.
5 GRANITIC GNEISS	Undifferentiated granitic gneiss, minor granite, probably of several ages. (5a) Mixed granitic gneiss and grey gneiss.
4 GREY GNEISS COMPLEX	Hornblende-biotite-quartz-feldspar gneisses, commonly garnetiferous, locally with sillimanite or kyanite. (4a) Metamorphosed mafic and ultramafic rocks.
3 AMPHIBOLITE-GRANULITE TRANSITIONAL FACIES ROCKS	Mixed grey gneisses (4), charnockitic gneisses (2), and granitic gneisses (5), tan gneisses (tan pyroxene-bearing rocks transitional between granulite and amphibolite facies), melanocratic gneisses (mafic gneisses associated with the hybrid gneisses).
2 CHARNOCKITIC ROCKS	Green hypersthene-bearing rocks of diverse composition. (2a) Weakly foliated or nearly massive rocks. (2b) Gneissic rocks with abundant biotite and/or hornblende. (2c) Charnockitic syenite. (2d) Charnockitic diorite.
1 MANICOUAGAN UPLANDS METAGABBRO	Homogeneous hypersthene-clinopyroxene-labradorite rock, commonly lineated. (1a) Biotite-hornblende metagabbro, retrograde facies of (1). (1b) Granulite facies rocks intercalated with metagabbro.

Rock outcrop, area of outcrop xx
Geological boundary (defined or approximate, assumed)
Limit of geological mapping . . . . . .
Bedding (inclined) . . . . . .
Gneissosity (inclined, vertical, dip unknown) . . . . . .
Lineation . . . . . .
Fault (approximate) . . . . . .
Slump block fault (D on downdropped side) . . . . . D
Shearing (inclined) . . . . . .
Shatter cone locality . . . . . s
Center of the Manicouagan Cryptoexplosion Structure . . . (X)
Mineralization . . . . . (M)

Geology by E.R. Rose 1955, J. Berard 1961, L. Kish 1961, K.L. Currie 1963, 1965-66, J.G. Murtaugh 1964-67, J.P. Bassaget 1967. Information contributed by M.R. Dence, S. Wolfe and H. Spetzler. Interpretation by J.G. Murtaugh.

Geological cartography by the Geological Survey of Canada, 1968

Base-map from 1/250,000 scale map compiled by the Army Survey Establishment, R.C.E., 1963

Approximate magnetic declination 1968, 25°35' West decreasing 3/2' annually

Elevations in feet above sea-level

The contour interval in the central portion of the map is 100 feet compared to 200 feet for the remainder of the map