CANADA

DEPARTMENT OF MINES AND RESOURCES

HON. T. A. CRERAR, MINISTER; CHARLES CAMSELL, DEPUTY MINISTER

MINES AND GEOLOGY BRANCH

JOHN McLEISH, DIRECTOR

BUREAU OF GEOLOGY AND TOPOGRAPHY

F. C. C. LYNCH, CHIEF

ISSUED 1938

LEGEND

ARCHEAN (EARLY PRECAMBRIAN)

- 3 — Granite
- 5 — Granite, granodiorite, quartz diorite
- 2 — Granodiorite, quartz diorite
- 4 — Granite, granodiorite and quartz diorite with subordinate schist and gneiss probably derived from (1)
- 1 — Dacite, andesite, rhyolite, tuff; conglomerate, feldspathic quartzite, greywacke; hornblende-biotite schist, mica gneiss, quartz-mica-chlorite-garnet schist

Geological boundary (defined, approximate, assumed)
Schistosity (dip uncertain, inclined, vertical)
Glacial striæ
Outcrops where observed

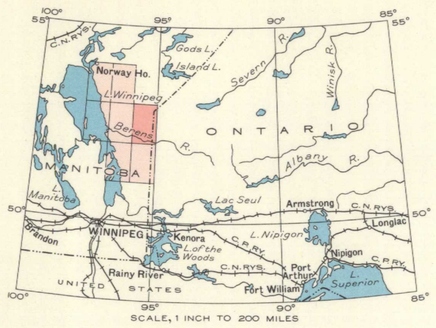
Portage
Interprovincial boundary
Township boundary (unsurveyed)
Indian Reserve boundary
Fall or rapid
Height in feet

SOURCES OF INFORMATION

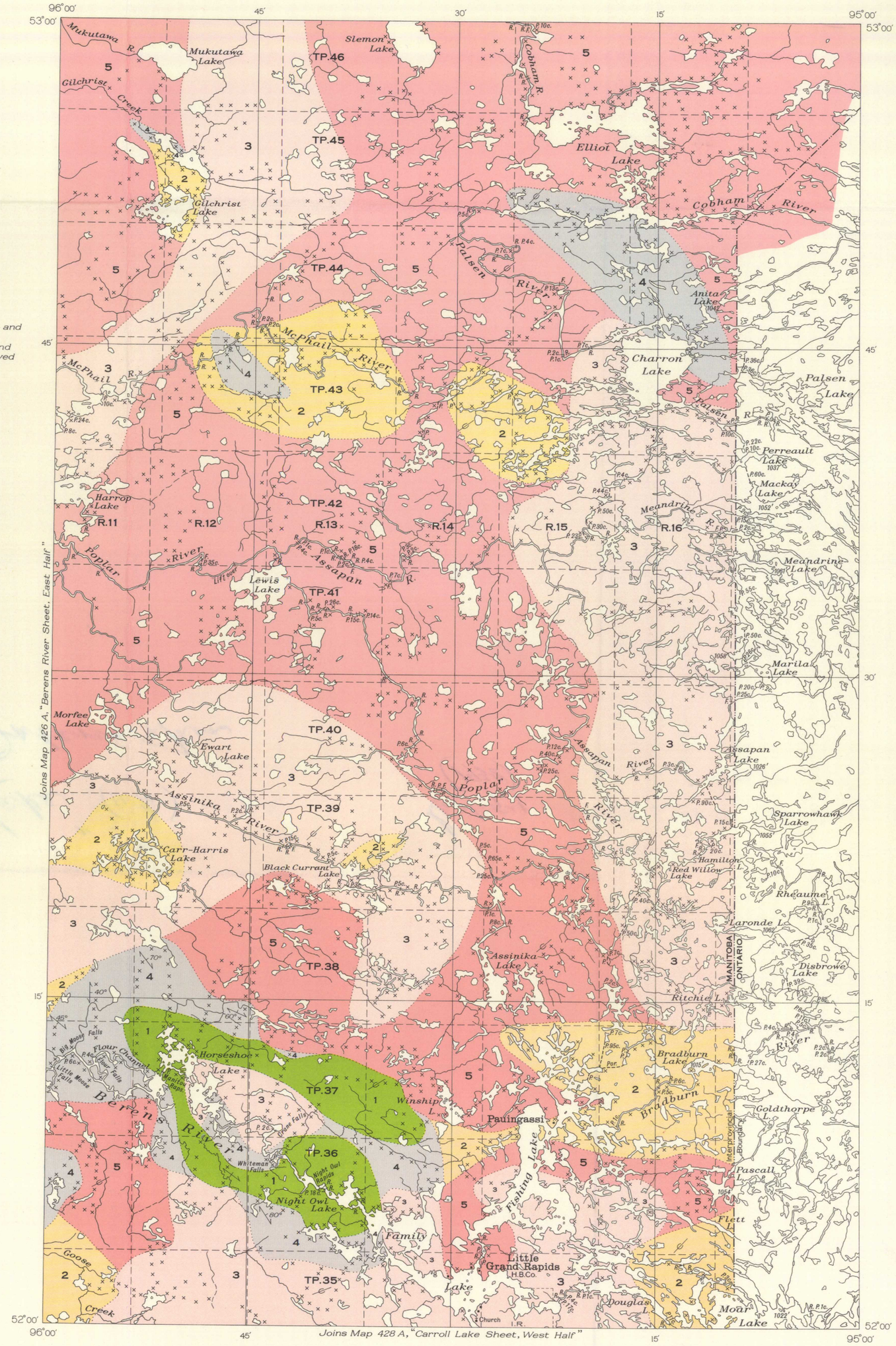
Compiled and reproduced by the Bureau of Geology and Topography from information supplied by Federal Government Departments. Geology by A.W. Johnston, 1936.

TRUE NORTH
MAG. NORTH

Approximate magnetic declination, 7°30' East.



SCALE, 1 INCH TO 200 MILES



MAP 425A

DEER LAKE SHEET

(WEST HALF)

MANITOBA–ONTARIO

Scale, 1/253440 or 1 Inch to 4 Miles

Miles 4 0 4 8 12

Kilometres 5 0 5 10 15

ACCESS

The area is reached from Lake Winnipeg by way of Berens and Poplar rivers. McPhail river may be used to enter the northern part but the stream is narrow and shallow. Most points within the area are accessible from watercourses or portage routes between the numerous lakes.

PHYSICAL FEATURES

The land surface is an uneven plain rising gradually to the east to elevations of about 1050 feet above sea-level. Local differences in elevation are small; rock ridges trend southeast and are 20 to 100 feet above intervening muskegs and lakes. Large swamps are not numerous. The area has been glaciated by ice moving southwestward. Deposits of glacial drift are not thick or widespread and bedrock outcrops are very numerous. The watercourses are broken by many rapids and falls. Good stands of jackpine, spruce, and poplar are small and few in number. The islands, however, in Family and Fishing lakes and areas along Bradburn river are well wooded.

GENERAL GEOLOGY

The oldest rocks of the district are volcanic and sedimentary rocks (1) occurring together in a horseshoe-shaped area extending along Berens river from Horseshoe lake to Night Owl lake. Volcanic rocks form the greater part of the group.

The lavas are light grey to nearly black and weather grey or greenish. They are generally massive; some are fine-grained, others porphyritic. Dacite the most prevalent type, is grey and shows phenocrysts of feldspar in a fine-grained groundmass. The lavas in places exhibit pillow and flow structures. A finely-banded, light-coloured rock considered to be a tuff occurs south of the southern end of Horseshoe lake. The lavas are locally altered to hornblende-biotite schists and gneisses.

The sediments, conglomerate, feldspathic quartzite and greywacke, occur largely in the southern part of the horseshoe-shaped area and probably are interlayered with the volcanics. Southwest of Whiteman falls the succession across the band, from north to south, is; rhyolite, dacite, feldspathic quartzite and greywacke, conglomerate, pillow lava, and feldspathic quartzite. The conglomerate is a dark-coloured, rusty-weathering rock, with pebbles of various sizes in a schistose, garnetiferous matrix. The feldspathic quartzite and greywacke are fine-grained grey, schistose rocks, weathering light grey. In places the sediments are greatly altered and are quartz-mica-feldspar gneisses and quartz-mica-chlorite-garnet schists.

The sediments and volcanics are intruded by dykes of granite, pegmatite, and aplite. Some of the rocks mapped as lavas may be intrusive feldspar porphyries.

The intrusive rocks that underlie much of the map-area are granites, granodiorite and quartz diorite. All are younger than the volcanics and sediments. The granites cut the more basic intrusives.

The older intrusives (2) grade from granodiorite to quartz diorite. They are grey, medium to coarse-grained rocks containing a considerable proportion of dark minerals and abundant grey or white oligoclase. Foliation is prominent in places and absent in other places.

The granites (3) are, as a rule, pink, medium to very coarse-grained rocks containing a small proportion of dark minerals and abundant pink orthoclase or microcline. Porphyritic types occur. The granites are occasionally but not generally foliated. Along the southern boundary of the area, immediately west of Family lake, two granites occur. A massive, medium-grained granite, in places highly quartzose, intrudes a very coarse-grained, porphyritic granite.

Aplite dykes, and pegmatite dykes up to 10 feet wide containing quartz and feldspar, some mica, and occasionally tourmaline or molybdenite, occur in many places and cut all the other intrusives.

Contacts between the granites and the older intrusives are generally irregular. Throughout wide areas (5) two or more types are intermingled, each type making up a considerable proportion of the bedrock. Granite in the form of dykes and irregularly shaped masses invade the more basic intrusives.

Occasional inclusions of older rocks occur in the granites, granodiorite and quartz diorite, and are most prevalent in the more basic intrusives. Inclusions range from small rounded or angular blocks to large masses. They are usually schistose or gneissic, hornblende-biotite gneisses, quartz-biotite-feldspar gneisses, or mica-chlorite-garnet schists, but blocks of bedded greywacke, feldspathic quartzite, and dense greenstone are common. Inclusions are prevalent in zones (4) either within the intrusives or along the borders of areas of sediments and volcanics. The intrusives form the greater part of the bedrock within these zones. Where the zones pass into areas of sediments and volcanics the line of contact is fairly abrupt.

ECONOMIC GEOLOGY

The area underlain by volcanic and sedimentary rocks (1) constitutes the most promising part of the district for mineral deposits. No mineral deposits are known to occur in this area but little prospecting has been done.