

ACCESS

Boat services are maintained between Winnipeg and the small settlements on the shores of Lake Winnipeg during the summer months. The interior may be reached from Lake Winnipeg by canoe by ascending the Pigeon, Bloodvein, Levee, Wanipigow, and Manigotagan rivers. These streams are well travelled and portage trails are cut around the rapids and falls.

PHYSICAL FEATURES

Lake Winnipeg has a low, rocky or sandy shore line. The lake is shallow for a considerable distance from the shore and where the shoreline is rocky there are numerous small islands and reefs. Inland from the lake the land surface is an uneven plain rising gradually to the east. The bedrock outcrops as northwesterly trending ridges which rise 30 to 40 feet above swampy level areas. The rocky ridges are somewhat higher and more numerous along the eastern border of the area. The country is wooded with jackpine, spruce and poplar but the trees are small, burned over areas are widespread, and good stands of timber are rare.

The area was glaciated in Pleistocene time by ice moving southwestward. The glacial drift left by the retreating ice is not thick but thin deposits of boulder clay, sand and gravel are widespread. In its later stages glacial lake Agassiz covered much of the area. The clays and silts deposited in this lake form many of the low lying level areas.

GENERAL GEOLOGY

The oldest rocks within the area are a series of sediments with some interbedded lava flows (1) that outcrop as a narrow belt along the valley of Wanipigow river. All the members of the series are steeply folded; dips as low as 45° are uncommon. The sediments include thick bedded, medium grained, buff to white quartzite, greenish grey, rather coarse grained arkose, light to dark grey, fine grained greywacke and thinner, dark, silty beds and lenses of conglomerate. Grey to light green dacite and dacite porphyry lava flows showing pillow structure occur interbedded with the sediments but make up only a minor part of the series.

Intrusive granitic rocks ranging from granite to quartz diorite underlie by far the greater part of the area. All are younger than the volcanic and sedimentary rocks. They may be divided into two groups. The older and more basic group of intrusives (2) varies in composition from granodiorite to quartz diorite. The rocks of this group are grey, medium to coarse in grain, and are composed of grey to white oligoclase, 10 to 20% quartz and a relatively large proportion of dark minerals such as biotite, hornblende and chlorite. Foliation is generally well developed but not invariably so. The younger group of intrusives (3) are largely granites. They are pink, medium to coarse grained rocks composed of pink orthoclase or microcline with subordinate plagioclase, 20 to 30% quartz and a relatively small proportion of biotite, hornblende, or chlorite. Porphyritic phases are common. Foliation is locally developed but in general is absent. Aplite and pegmatite dykes cut both groups of intrusives. They are composed of quartz and feldspar, some mica, and in places contain tourmaline and molybdenite.

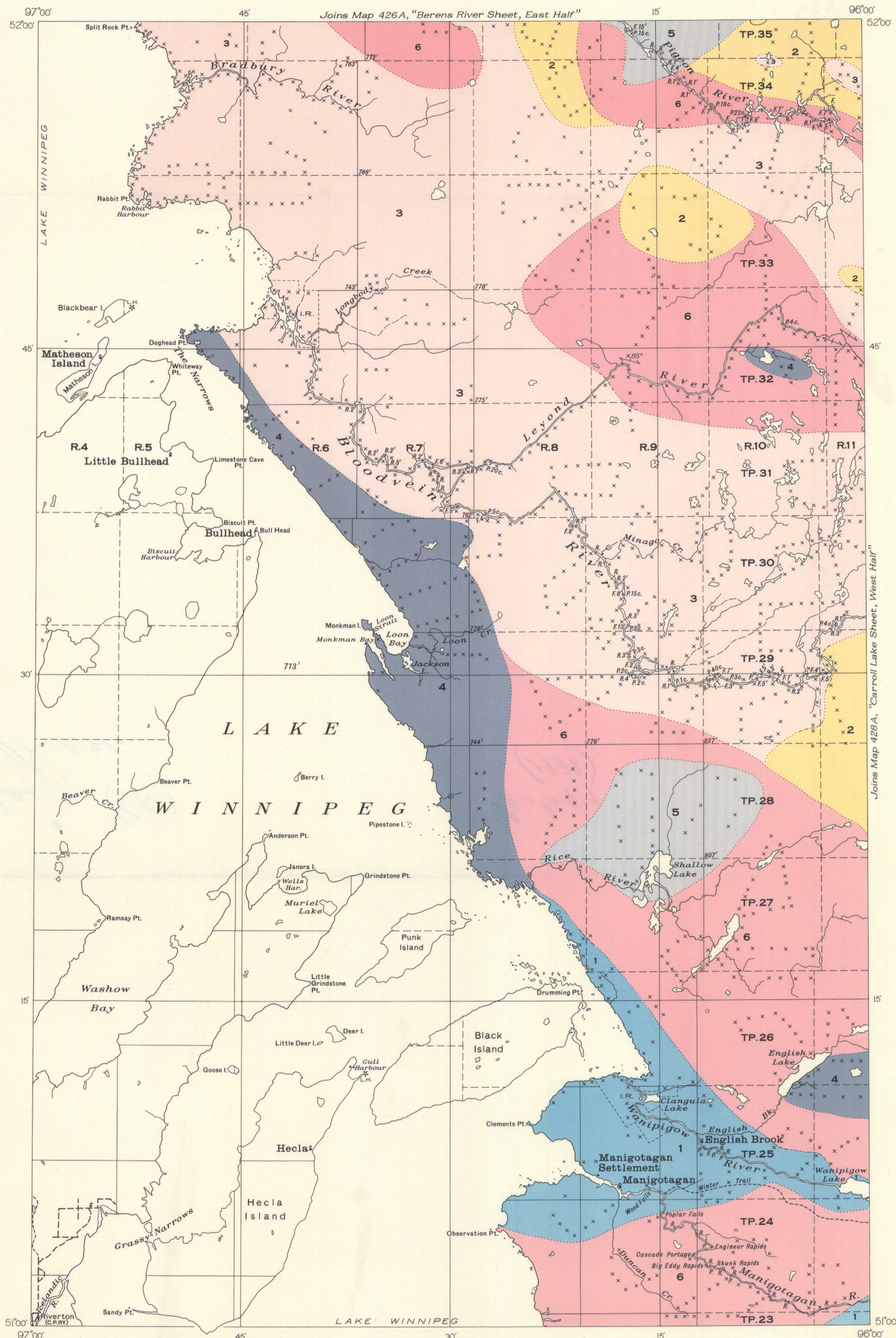
Contacts between the group of grey granodiorites and quartz diorites and the younger group of pink granites are generally irregular and poorly defined. Pink granite as dykes and irregular shaped bodies intrudes the older group of granodiorites and diorites. Intrusives of both groups are intermingled throughout large areas (6), the rocks of both groups making up a considerable proportion of the whole.

Biotite and biotite-hornblende gneisses (4) derived from sediments and probably in part from lava flows outcrop along the shore of Lake Winnipeg and in two small areas near the eastern border of the area. The gneisses are a monotonous succession of banded rocks composed of quartz, feldspar, biotite and hornblende in various combinations and proportions. The banding is mainly due to the original bedding of the sediments but in part is the result of lit-par-lit injection of quartzose granitic material. The gneisses are cut by many pegmatite dykes which in places make up 20% or more of the bedrock. A wide transition zone generally occurs along the contact of the gneisses with large intrusive bodies.

Throughout the area the group of granodiorites and quartz diorites contain inclusions of the older rocks which they have invaded. The younger pink granites also contain inclusions in places but they are not as common as in the older group of intrusives. The inclusions range from small rounded or angular blocks to large masses many feet in diameter. They are commonly schistose or gneissic and include hornblende-biotite gneisses, quartz-biotite-feldspar gneisses and mica-chlorite schists; blocks of greywacke, feldspathic quartzite and greenstone are not uncommon. Areas where the inclusions are abundant occur as zones (5) within the intrusives. The intrusives form the greater proportion of the bedrock within these zones but the inclusions make up an appreciable amount of the whole.

ECONOMIC GEOLOGY

Gold deposits within the area occur as quartz bodies along shear zones within the sediments and volcanics (1). Structural features such as contacts between lava flows and beds of chert, tuff, or quartzose sediments, or contacts of small intrusive bodies with the sediments, appear to control the development of the quartz-bearing shear and fault zones. The gold occurs as small particles in the vein quartz. Much of the gold-bearing quartz does not contain sulphides although chalcocite and pyrite generally occur along the margins of the quartz veins and lenses and adjacent to included fragments of the wall rock in the quartz.



LEGEND

3	Granite	6	Granite, granodiorite, quartz diorite
2	Granodiorite, quartz diorite	5	Granite, granodiorite and quartz diorite with subordinate hornblende-biotite gneiss, biotite gneiss and biotite-chlorite schist
1	Greywacke, quartzite, arkose, slate, conglomerate, some interbedded dacite flows	4	Biotite and biotite-hornblende gneisses and schist derived from (1); subordinate granitic intrusives

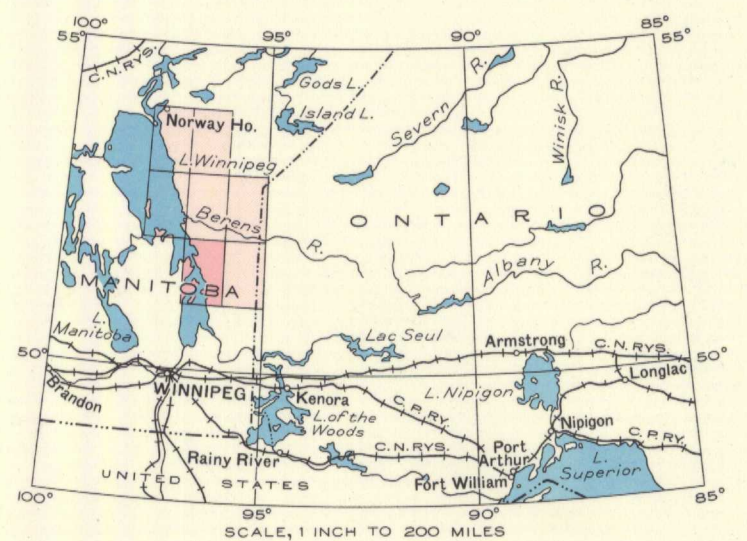
Geological boundary (approximate, assumed)
Schistosity (dip uncertain, inclined, vertical)
Glacial striae
Outcrops where observed x

Road not well travelled
Trail or portage
School
Post office
Railway
Lighthouse
Township boundary (surveyed, unsurveyed)
Indian Reserve boundary
Fall or rapid
Height in feet 827'

SOURCES OF INFORMATION

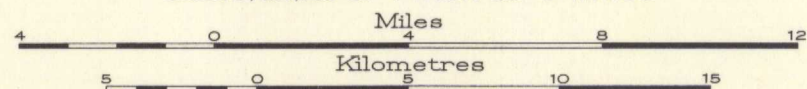
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TRUE NORTH
MAG. NORTH
Approximate magnetic declination, 9° East.



MAP 429A
HECLA SHEET
(EAST HALF)
MANITOBA

Scale, 1 inch to 4 Miles



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