CANADA
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ACCESS

The area may be reached by canoe from Lake Winnipeg by the McLaughlin, Gunisao, Belanger, Mukutawa and Nanawan rivers. All these streams are well travelled and portage trails are cut around the numerous rapids and falls. Stevenson lake is reached from Norway House on Lake Winnipeg by ascending the Gunisao and McLaughlin rivers to Ponask lake, crossing the height of land by a series of portages to Lone Nest lake to the southeast, and thence east by river through Pelican lake to Stevenson lake.

PHYSICAL FEATURES

Viewed from the higher hills the surface appears flat and presents an even skyline to the observer. In detail the surface is rough and hummocky with steep, rocky hills and ridges rising 50 to 150 feet above the lakes and areas of muskeg. The rivers flow along poorly defined valleys and are interrupted by many rapids and falls. The country is well wooded with jackpine, spruce and poplar but the trees are small 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 small accumulations of boulder clay, gravel and sand occur in many places. In its later stages glacial lake Agassiz covered the lower lying parts of the area and the silts and sands deposited in this lake form nearly level, plain-like areas. On the whole, rock outcrops are plentiful over most of the area.

GENERAL GEOLOGY

The oldest rocks within the area are a group of volcanic and sedimentary rocks (1) that form a narrow belt ½ to ¾ mile in width extending southwest along the south shores of Stevenson and Ponask lakes and the valley of McLaughlin river. Sediments and volcanic flows are present in about equal proportions. The sediments are most abundant along the northern half of the belt; volcanic rocks predominate to the south. Both sediments and volcanic rocks dip to the south and southeast at steep to vertical angles. The sediments include conglomerate, quartzite, greywacke and slate. The conglomerate occurs as lenticular beds throughout the sediments and is in part agglomeratic. The pebbles include granite, greenstone and schist and are embedded in a dark green, chloritic matrix. Greywacke, in part tuffaceous, makes up the bulk of the sediments. Light grey to white, banded, cherty, siliceous tuffs are interbedded with the greywackes and also with the lava flows. The lava flows range in composition from andesite to basalt. They are fine grained, green to black, commonly equigranular but in places porphyritic with small phenocrysts of white weathering feldspar. The flows are generally massive but locally have well developed pillow and flow structures. In places, commonly near contacts with granitic intrusives, the lavas are altered to hornblende-biotite schists.

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

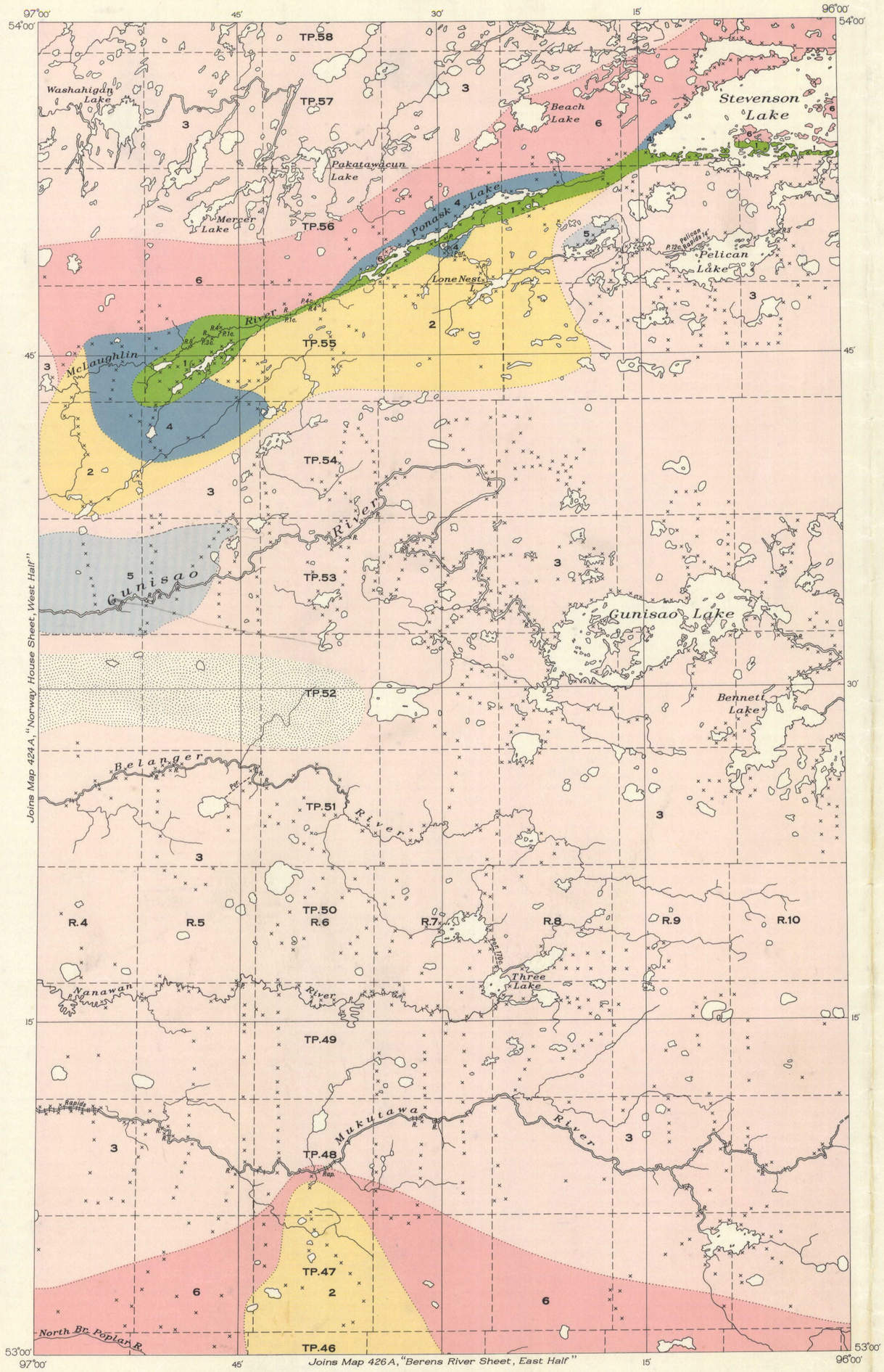
Contacts between the group of grey granodiorites and quartz diorites and the younger group of pink granites are generally irregular and poorly defined. Pink granite as dykes and irregular shaped masses intrudes the older group of granodiorites and quartz diorites. Intrusives of both groups are intermingled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

In places along and near contacts of the granitic intrusives of both groups with volcanic rocks and sediments a mixed rock type is developed (4). It consists predominantly of biotite and biotite-hornblende gneisses and schists derived from the volcanic and sedimentary rocks, with subordinate amounts of intrusive material in the form of dykes and sills of granite and pegmatite.

The group of granodiorite and quartz diorites contain numerous inclusions of older rocks which they have invaded. The younger pink granites also contain inclusions in places but they are not as common as in the old 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) either within the intrusives or along the borders of areas of sediments and volcanics. 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

No mineral deposits of importance have so far been found within the area. The volcanics and sediments (1) are the most favourable rocks in which to prospect. Small quartz veins, many of which contain pyrite and chalcopyrite, are numerous near the contacts of these rocks with the granitic intrusives.



LEGEND

ARCHEAN (EARLY PRECAMBRIAN)

- 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 — Andesite, basalt, tuff; conglomerate, quartzite, greywacke; derived schists
- 4 — Biotite and biotite-hornblende gneiss and schist derived from (1) and dykes and sills of granite and pegmatite

Drift covered, outcrops few or lacking

Geological boundary (approximate, assumed)
Outcrops where observed
Portage
Township boundary (unsurveyed)
Rapid

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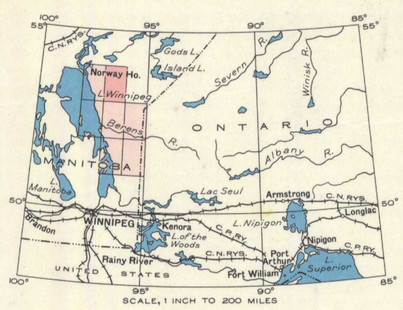
TRUE NORTH
MAG. NORTH

Approximate magnetic declination, 10° East.



SCALE, 1 INCH TO 200 MILES

MAP 423A

NORWAY HOUSE SHEET

(EAST HALF)

MANITOBA

Scale, 1/253440 or 1 Inch to 4 Miles

Miles 4 0 4 8 12

Kilometres 5 0 5 10 15