

LEGEND

MODERN RECENT AND PLEISTOCENE

9 Recent alluvium and glacial deposits

6 Pegmatitic granite, granite, syenite, granodiorite, diorite

5 Diorite, gabbro, pyroxenite, peridotite

4 Arkose (largely feldspar-quartz-biotite gneiss), micaceous quartzite (largely quartz-biotite schist), greywacke (largely quartz-mica or quartz-hornblende schist)

1 Rhyolite, trachyte, andesite, dacite, basalt, tuff, greenstone, chlorite schist, hornblende schist

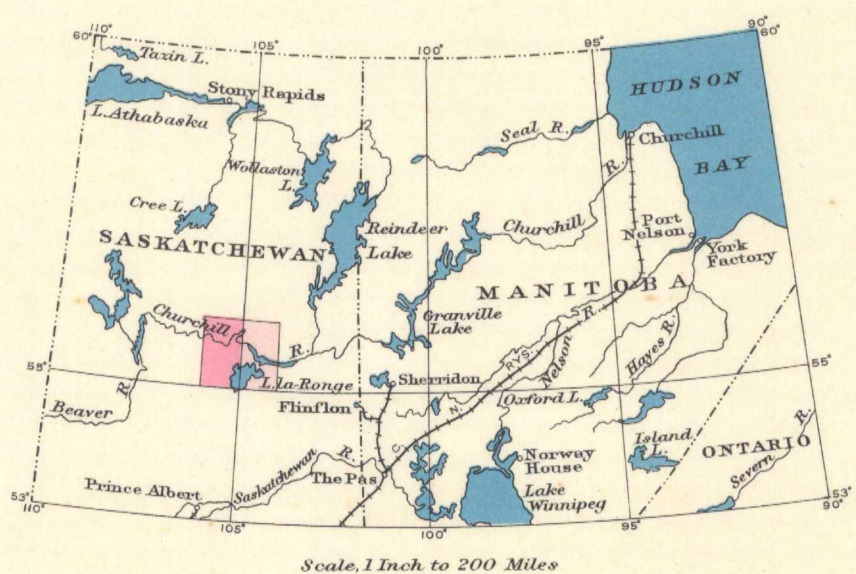
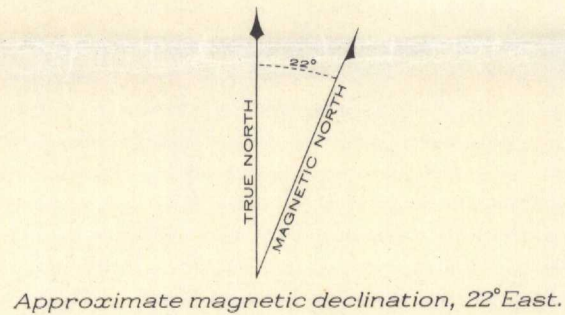
8 Schist and gneiss (probably altered Wekusko group strata) intimately invaded by granite, apite, pegmatite, etc.

7 Quartz-biotite schist and gneiss, quartz-hornblende schist and gneiss, garnetiferous schist and gneiss; probably altered Wekusko group strata

- Geological boundary (defined, approximate, assumed).....
- Bedding (inclined).....
- Schistosity (inclined, vertical).....
- Glacial striae.....
- Trail or portage.....
- Indian Reserve boundary.....
- Fall or rapid.....
- Marsh.....
- Height in feet.....

Geology by D. M. E. McLarty, 1935.

Base-map prepared from information supplied by the Topographical and Air-Survey Bureau, Department of the Interior.



ACCESS

Two well-travelled canoe routes give access to the area; the first, from Prince Albert by motor road to Montreal lake, thence down Montreal river to Lac la-Ronge, a distance of 180 miles; the second, from Flinlon by way of Amisk lake, ascending the Sturgeon-weir and Churchill rivers to Stanley, likewise a distance of 180 miles. A well-organized drainage pattern makes most points in the area easily accessible.

PHYSICAL FEATURES

Elevation of the drainage system varies from approximately 1,200 feet on Dead lake to 1,440 feet on Foster river. Relief in the area varies from 50 to 350 feet above the level of the waterways reaching a maximum in the hills and ridges of granite around McIntosh lake and southeast of Trout lake. Bedrock is well exposed throughout except in the area south of Clam and Nemenben lakes, which is completely covered with glacial drift, sand, boulders, swamp and muskeg, and may be in part underlain by Paleozoic sediments. The remaining portion of the area is rocky and poorly forested; the trees being second and later growth, rarely attain a diameter greater than 15 inches.

GENERAL GEOLOGY

Volcanic rocks (1), rhyolite, trachyte, andesite, basalt, greenstone and derived chlorite and hornblende schists are believed to be the oldest rocks in the area. Some outcrops are massive but the volcanics are more commonly laminated chlorite schists, dark hornblende schists, and glistening mica schists. West of Foster river interbedded acid and basic volcanics, mainly rhyolites and andesites, altered to glistening mica and chlorite schists, are found considerably intruded by granitic material.

The arenaceous sediments (4) occurring west of Foster river consist of angular, sub-angular, and less commonly rounded fragments of quartz and feldspar up to 1 inch in diameter in a medium to coarse quartz-feldspar-mica matrix. These rocks commonly are metamorphosed to coarse-grained, feldspathic quartz-biotite gneiss. Numerous bands of fine-grained, dark greywacke, impure micaceous quartzite, and derived quartz-mica and quartz-hornblende schists occur with the arkosic rocks.

Diorite, gabbro, pyroxenite, hornblende, peridotite and basic dykes (5), are sparingly developed throughout the area invading the volcanic and sedimentary rocks in the form of small, irregularly-shaped masses and narrow dykes. These rocks vary widely in composition, are commonly massive, black or mottled grey, and in places show signs of granitization by later acid intrusive material.

The volcanic and sedimentary rocks are extensively and intimately invaded by acid intrusives (6). Many varieties are represented, which irrespective of composition are commonly coarse-grained and massive. Pink to grey granite and quartz diorite occurs southeast of Trout lake and around McIntosh lake. A massive, grey, granite having phenocrysts of feldspar up to 1 inch in diameter imbedded in a coarse groundmass occurs in two long narrow strips running southwest from Black Bear Island lake. On Needle lake a graphic granite is found. Pegmatite and apite dykes and sills are numerous and widely distributed throughout the area.

Large areas are occupied by schists and gneisses (7) of various compositions and uncertain origin, probably however derived from the sediments and volcanics of the Wekusko group (1 and 4). These are commonly finely laminated, quartz-biotite schists, medium and coarse-grained feldspathic quartz-biotite gneisses, and to a lesser extent quartz-hornblende schists and gneisses. Garnets occur commonly. These schists and gneisses are light grey to black and, for the most part occur in alternate bands of fine-grained (usually dark) and coarser-grained (light) material.

Other large areas are underlain by schist and gneiss intimately mixed with granite material (8). Quartz-mica schists and gneisses have been extensively injected in lit-par-lit manner by granite, pegmatite, and apite. Feldspathitization and granitization of the gneiss and schists has also taken place. The amount of granite present varies between 10 and 90 per cent, and the changes in proportion are so rapid, and the mixtures so intimate and complex, that this group may not be readily subdivided.

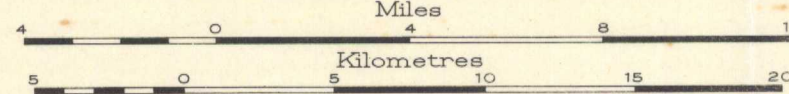
ECONOMIC GEOLOGY

The presence of copper-bearing sulphide deposits in various localities had been known for some time prior to 1929, but not until that year did prospecting in the Lac la-Ronge area attain prominence. At the base of Moose point, chalcopryite, pyrite, pyrrhotite, bornite, molybdenite, and magnetite, with quartz stringers up to 2 inches in width have been introduced along weak shear planes forming a disseminated replacement deposit in what is believed to be an altered impure quartzite. This mineralized zone which strikes north 50° to 60° east dipping 45° to 60° to the northwest has been traced intermittently for several thousand feet. Three trenches placed at intervals of 75 feet across the mineralized zone show chalcopryite mineralization over widths of 4 feet, 12 feet, and 6 feet respectively.

Quartz veins mineralized sparingly with pyrite were found in the volcanic rocks west of Foster river.

MAP 357 A
LAC LA-RONGE SHEET
(WEST HALF)
SASKATCHEWAN

Scale, 253470 or 1 Inch to 4 Miles



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