

- LEGEND**
- PALAEZOIC**
- 13 Mottled dolomite
- 12 Dark green to olive-green, equigranular to schistose diorite, hornblende
- 11 Biotite granite, pegmatite; 11A, hornblende-biotite granite, in part coarsely porphyritic
- ARCHAEO OR PROTEROZOIC**
- 10 Granitoid oligoclase-quartz gneiss
- 8 SHERRIDON GROUP (6-9)
Anthophyllite gneiss, in part garnet-bearing and in part cordierite-bearing
- 7 Gneissic quartzite and arkose, some richly biotitic, commonly garnetiferous; minor hornblende-plagioclase gneiss
- 6 Hornblende-plagioclase gneiss, commonly garnetiferous; limestone at Nokomis-Sherridon contact
- 9 Granitized Sherridon gneiss
- 4 NOKOMIS GROUP (3-5)
Quartz-plagioclase-biotite gneiss, commonly garnetiferous; minor hornblende-plagioclase gneiss
- 5 Granitized Nokomis gneiss
- 3 Hornblende-plagioclase gneiss, commonly garnetiferous
- ARCHAEO**
- 2 AMISK GROUP (1-2)
Fine-grained, biotitic, hornblende argillite, in minor part garnetiferous
- 1 Greenstones; altered andesites and dacites, in part pillowed and in part chlorite schist

- Bedding (inclined, vertical, dip unknown)
Gneissosity (inclined, vertical, dip unknown)
Stratiform foliation (inclined, vertical, dip unknown)
Lineation (plunge known, plunge unknown)
Drag-fold (form and plunge)
Anticlinal axis
Synclinal axis
Fault, shear zone
Glacial striae
Mineral prospect
Occurrence of limestone, cordierite, sillimanite L, C, S

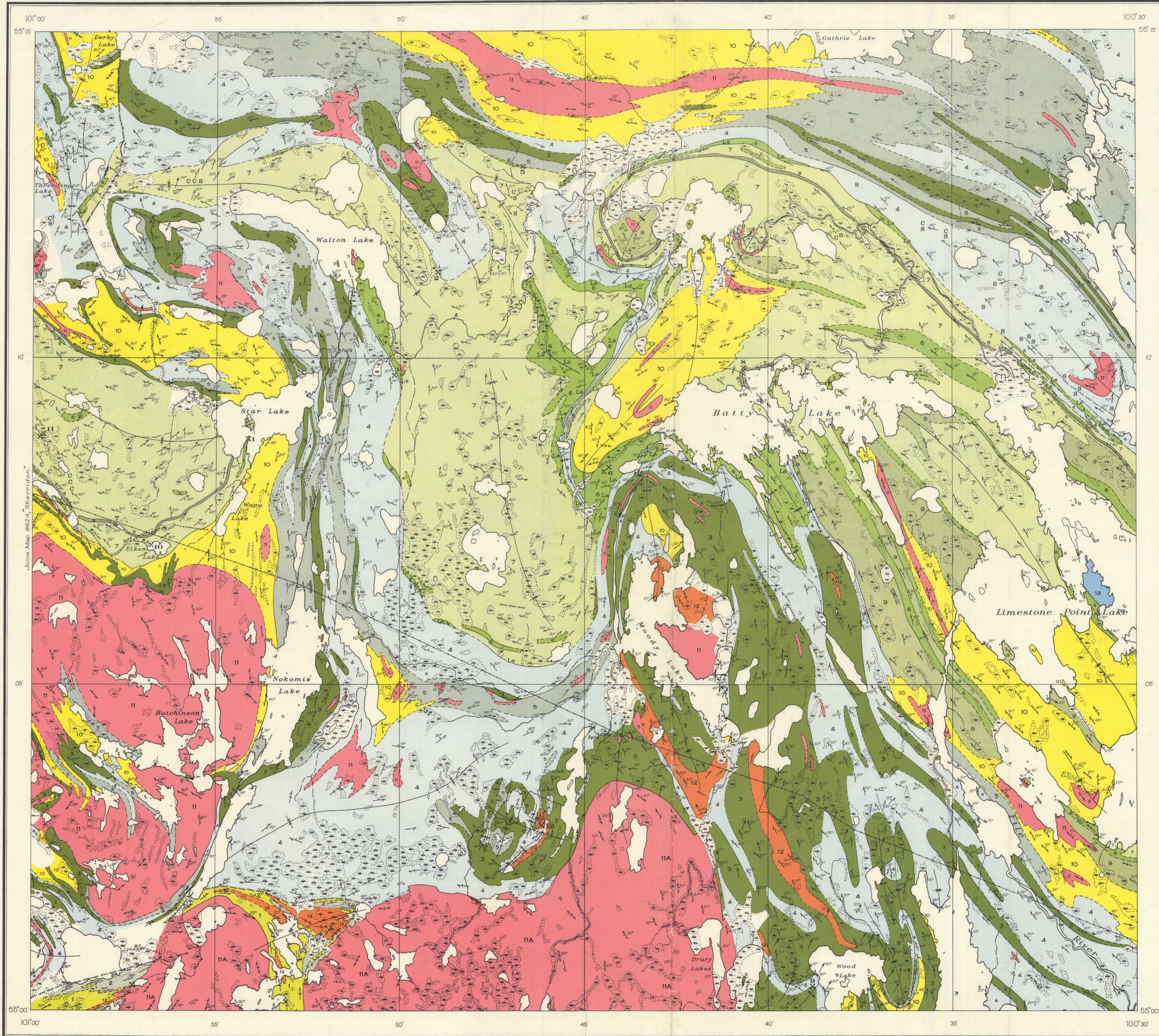
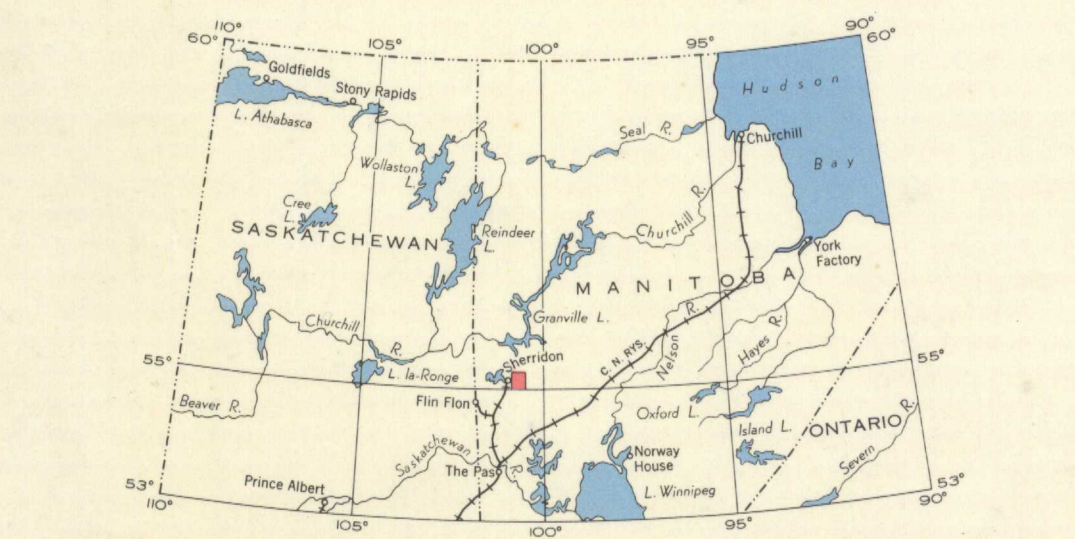
- MINERAL OCCURRENCES AND PROSPECTS**
- 1 Star Lake Sulphide (Fe) 7 Camp Lake Sulphide (Fe)
2 Bing and Peace River Groups (Cu) 8 Batty Lake Sulphide (Fe), (Cu)
3 Douglas Group (Cu) 9 Wood Lake Gold (Au)
4 Nokomis River Sulphide (Fe) 10 Eken Lake Group (Cu)
5 Walton River Sulphide (Fe) 11 Cu-Sulphide Property (Cu)
6 Batty Lake Gold (Au) 12 Evans Lake Gold (Au)

- MINERAL SYMBOLS**
- Copper Cu
Gold Au
Iron Fe

Geology by D.S. Robertson, 1947-1949
Cartography by the Geological Mapping Division, 1950

- Portage or winter road
Building
Power line
Survey monument M19B
Stream (position approximate)
Rapid
Marsh
Reef or small island
Base-map surveyed by the Department of the Interior, 1923, and by the Topographical Survey, 1943-1944, compilation by the Topographical Survey, 1945, with air photographs taken in 1943.

Approximate magnetic declination, 15° 30' East



DESCRIPTIVE NOTES

The oldest rocks of the area (1,2) are altered volcanic and sedimentary types correlative with the Wekusko group at Elbow Lake to the south and probably the equivalent of the Amisk rocks to the southeast. The 'greenstones' (1) consist of dark green to olive-green lavas, andesites and dacites, in some of which relict pillows can be observed. They are, in the main, highly sheared, and chlorite schist is not uncommon. Irregular, sill-like bodies of dark green diorite (12) occur in considerable quantity. The interbedded sedimentary rocks (2) are fine-grained, black to light grey biotitic and hornblende argillites, in minor part garnetiferous.

The Amisk group lies in fault contact with the Kissenew complex to the north, evidence of drag-folds indicating that the south, or Amisk, side has moved upwards with relation to the Kissenew.

Most of the Kissenew complex has been divided into two groups on the basis of variation in sedimentation, the Nokomis group (3-5) underlying the Sherridon group (6-9). The Nokomis consists of interbedded and intertongued, foliated, brownish grey to brown weathering, commonly garnetiferous, black to dark green, hornblende-plagioclase gneiss (3) and quartz-plagioclase-biotite gneiss (4). Bodies of injected granite are common to the north as are rocks mapped as 'granitized' Nokomis gneiss (5), characterized by abundant feldspar and, normally, by some magnetite.

Highly quartitic, ridgy weathering rocks (7) of the Sherridon group overlie the Nokomis and are interbedded with hornblende-plagioclase gneisses (6) of both sedimentary and volcanic origin. The hornblende gneisses at the Nokomis contact are normally lime-rich, and in large part are well-bedded limestones with interfingering quartzites. A narrow band of anthophyllite gneiss (8) extends through the Sherridon group from east to west in the area. It consists chiefly of brownish anthophyllite, but garnet, quartz, and biotite are commonly present, as is an iron-rich cordierite in the east. 'Granitized' Sherridon gneisses (9) are common in the east. The granitoid gneisses (10) are highly transformed sedimentary rocks that resemble granite, but they are compositionally and texturally banded, with the minerals in stratiform layers, giving a definite foliated appearance to the rocks.

Bodies of fine- to medium-grained pink granite (11) intrude and permeate all older rocks. They are commonly gneissic, due to similarly oriented crystals of biotite, and the structure may be accentuated by the presence of considerable magnetite. A somewhat different type of granite (11A) in the south part of the area is of variable composition and appearance, but is usually hornblende and in many places contains large white phenocrysts of feldspar. Sill-like bodies of equigranular to schistose, dark green to olive-green diorite (12) are associated with the Amisk and the Nokomis rocks. Their petrography indicates that they were intruded during deformation. Hornblende occurs on Moody Lake.

A fault block of highly contorted Palaeozoic dolomite (13) lies in the central part of Limestone Point Lake. The rock varies from creamy buff to mottled cream and pink, and from thinly bedded to massive. Analyses show that it has nearly the theoretical composition of dolomite. The mottled appearance is characteristic of Silurian dolomite.

Small mineral prospects have been worked from time to time in the area, most of them near the contact of the Nokomis and the Sherridon groups. These have been described by Wright³, and as they are now overgrown and slumped, nothing can be added to his description.

Two gold prospects were opened up during 1947-48, one west of Evans Lake and the other west of Wood Lake. The Evans Lake prospect occurs in sheared and silicified diorite low in the Nokomis group and in an area of complex folds. The gold is associated with pyrite and arsenopyrite. At Wood Lake, similar complex folds occur in quartz-plagioclase-biotite gneiss of the Nokomis group. Here, gold is associated with chalcopyrite, arsenopyrite, and galena, and mineralization appears to have been attended by the formation of large, green plates of microcline.

The best areas to prospect appear to be in the hornblende-bearing, limy rocks of the contact zone between the Nokomis and Sherridon groups, and in the tight, intricate folds of the Nokomis in the southern parts of the map-area. Similar folds appear to occur just east of the southeast corner of the area.

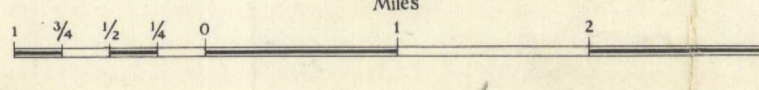
¹Stockwell, C.H.: Gold Deposits of Elbow-Morton Area, Manitoba; Geol. Surv., Canada, Memoir 196, 1936

²Harrison, J.M.: Kissenew, Saskatchewan and Manitoba; Geol. Surv., Canada, Map 970A, 1949

³Wright, J.F.: Geology and Mineral Deposits of a Part of Northwest Manitoba; Geol. Surv., Canada, Sum. Rept. 1930, pt. C (1931)

MAP 1006A
BATTY LAKE
WEST OF PRINCIPAL MERIDIAN
MANITOBA

Scale: One Inch to One Mile = 1/63,360
Miles



1006A
5.1.3
A, Geol.
Batty Lake, Man.
1006A

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