

INTRODUCTION

The Settee Lake (West Half) map area is situated between latitudes $55^{\circ} 45'$ and $56^{\circ} 00'$ north and between longitudes $104^{\circ} 15'$ and $104^{\circ} 30'$ west. The centre of the quadrangle is about 64 miles northeast of La Ronge.

GENERAL GEOLOGY

All the consolidated rocks in the Settee Lake Area (West Half) are of Precambrian age. In general outcrop is not abundant, probably comprising less than one-third of the map area.

Bedrock is composed of sub-parallel units of metamorphosed sedimentary and volcanic rocks, separated and intruded by lenticular masses of granitic to dioritic rock.

The meta-sedimentary rocks, which occupy most of the northwest corner and southern third of the map area, consist mainly of biotite gneisses, granulites, and migmatites with interlayered hornblende and calc-silicate gneisses. The meta-volcanic rocks comprise a wide zone trending northeasterly to northerly across the central portion of the map area. For the most part these are foliated andesites with minor amounts of basalt, dacite, and interlayered acidic flow rocks, and some associated tuff and agglomerate. Quartz and pegmatite veins and replacement bodies are common in both the meta-sedimentary and meta-volcanic rocks.

Several bodies of granitic rock, some of which appear to be syntectonic, occur in the area. In composition these rocks range from granite to diorite. In outline the intrusives are somewhat lenticular and usually exhibit a gneissosity roughly parallel to the northeasterly regional structure. Minor amounts of gabbroic or more basic intrusive rocks occur as small pods or lenses predominantly in the metamorphic rocks.

STRUCTURE

The predominant structural trend in the area is northeasterly. In the meta-sedimentary rocks the gneissic structure is conformable and evidently parallel to the original sedimentary layering. Dips of

the gneissic or schistose structures are mostly steep to the northwest, suggesting isoclinal folding. Locally, synclinal or anticlinal folds occur, usually associated with bodies of intrusive rock. In areas of migmatization the gneissic layering is sometimes highly contorted, but the resulting drag folds have no consistent attitude.

Zones of shearing are fairly common in the area. These are mostly parallel to the gneissic structure and the more pronounced ones possibly represent strike faults. A few transverse shear zones also occur in the area, and again the stronger of these may be fault zones.

ECONOMIC GEOLOGY

Disseminated pyrrhotite and pyrite, occurring in amounts up to five per cent of the rock, is common in many localities in the meta-sedimentary and meta-volcanic rocks. This concentration increases locally in shear zones. The meta-volcanic rocks in the area also contain minor amounts of disseminated chalcopyrite, associated with pyrite; in places they may also contain trace values in gold or silver.

Quartz veins in the meta-sedimentary rocks appear to be barren, but those in the volcanic rocks sometimes carry values in metals of economic interest.

Although no mineral deposits have yet been discovered in this area, the meta-volcanic rocks are the most interesting and may well justify closer attention than they seem to have received in the past.