

outwash and later melted. Pl. 4 of this type are especially prominent in the southern parts of Cleaver and McNeil townships; the greater part of Argyle township is covered with outwash. Smaller areas of the same type are found in the southeastern part of Hlneks, the western half of Montrose, and the valley of Duncan creek.

Glacial and post-glacial lake and stream deposits are comparatively small in relative amount. A flat swamp with an occasional pond covers 8 or 9 square miles in the northwest corner of Argyle and adjacent parts of McNeil and Hlneks townships. It is clearly a glacial or recent lake now almost entirely filled in. This is the largest area of the kind found within the map-area, but there are several smaller ones to be seen at different places. The district is a good one in which to see the process of lake-filling in all its stages. Austen lake and Seven Inch lake, for instance, are basins filled with soft mud covered only by a few inches of water in many places. The shores of such lakes are frequently bordered by a belt of marsh plants and moss growing on the surface of this soft mud, forming a quaking bog dangerous and in places impossible to cross. The width of this belt increases year by year, and at the same time the solidity of the older parts increases with annual increments of growth, until the lake is reduced to a small pond or two in the midst of a mossy, wet plain. This stage is well shown on a former lake in southeastern Cleaver on the granite boundary nearly east of mile 98 on Niven's line. After this stage is reached trees commence to root in the muskeg, chiefly stunted tamarack and black spruce, and gradually spread until a typical muskeg, covered with a moderately thick growth of small to medium sized trees, is formed. A large muskeg of this type occurs in northeastern Argyle.

Stream deposits are of very small relative importance. They are mainly post-glacial terraces formed as the various streams of the area cut down through the drift deposits filling the valleys. A number of them, notably those on Montreal river between Elk lake and Indian chute, are probably of glacial age. They are of such size and elevation above the present stream that they were clearly formed by a stream of much larger volume than the present, probably, therefore, when the natural drainage was augmented by the waters of the melting glaciers and by drainage from areas which after the retreat of the ice took other channels. In this connexion it is notable that such stream terraces are found mainly in the valleys of south-flowing streams such as Montreal river and Duncan creek, but are not marked, within Matachewan area at least, on the streams flowing north, such as Whitefish and Nighthawk creeks.

ECONOMIC GEOLOGY.

ASBESTOS.

Asbestos in small veins and stringers has been observed at several places within the map-area, more particularly in the western part. It occurs in masses of basic gabbro and peridotite, which have been altered to serpentine. These bodies, where found, have been noted on the map. Only one deposit of possible commercial importance has as yet been discovered, on the south shore of Rahn lake in the western part of Bannock-