

pear for more than 50 miles below Pas. At the Cedar Lake mouth of the river, however, numerous low cliffs of limestone are exposed along the banks of the river and along the sides of the islands at its mouth. The south shore of Cedar lake is low and swampy until the east end is approached; where numerous small rocky islands and ledges of limestone occur. These limestone ledges outcrop at frequent intervals and give rise to four rapids above Grand rapids. Between the Roche Rouge and Grand rapids the river flows for a short distance between high banks of glacial till before cutting across the scarp of Silurian rocks near its mouth.

The outcrops examined in the Saskatchewan valley thus fall into four groups if areally considered. The most westerly of these is exposed in the cuts of the Hudson Bay railway from 4 to 25 miles northeast of Pas. The other three lie respectively in the Cedar Lake estuary of the river, about the eastern shore of Cedar lake, and along the lower part of the river between Cross lake and the foot of Grand rapids.

STRATIGRAPHY AND FAUNAS.

The rock exposures at Grand rapids afford the best section of the Silurian which is known in Manitoba. Near the head of the rapids at the narrowest part of the channel the River cliffs of Silurian dolomite rise about 30 feet high on either side of the river. Beds somewhat lower than the base of these cliffs are exposed a short distance above the head of the old overflow or cut-off channel. Beds about 40 feet higher than the top of the River cliffs are exposed near the old tramway. A section combining the beds exposed in the lower and upper part of the Rapids together with those near the tramway is shown following.