FIELD NOTES ON THE GEOLOGY OF THE COUNTRY ABOUT CHELSEA, QUEBEC.

O. F. N. CLUB EXCURSION, CHELSEA, SEPT. 5TH, 1902.

Several interesting geological phenomena were examined along the valley of the Gatineau River on Saturday afternoon September 6th, 1902.

Along the western side of the falls and rapids at the Island east of Chelsea Station on the C. P. R., the Archæan crystalline rocks consist for the most part of irregularly broken and shredded bands of rusty gneiss, whose strike was almost directly east and west, and at right angles to the course of the river, through which were injected several dykes of coarsely crystalline granite affording excellent examples of graphic granite, microperthite and pegmatite. These are evidently of later date and origin than the foliated gray shredded gneisses. The water of the falls and rapids tumbles from a hard ledge of finely twisted and banded hornblendic gneiss on a softer band of pyroxenite with numerous crystals of mica, mostly biotite, in which are segregated veins of quartz with fibrous hornblende and hematite. Molybdenite crystals were elsewhere observed in masses of rock from this latter band and collected by members of the Club and of the Normal School.

Several pot-holes occur in the softer pyroxene rock of the bottom of the falls showing the erosive action of streams carrying detrital matter in their rushing waters. One of these was fully four feet in depth. The river bed is for the most part rocky at this point. At different levels, however, below high-water mark the geological party observed recent accumulations of sand, gravel and boulders along the shores and on the rocky surfaces of the river bed, which, at this time of the year, are exposed on account of the low water. Accumulations of sands arranged concentrically to the shore line are found in the bays of a semicircular shape and usually at the foot of a prominent ridge which extends into the river and on the lower side of the ledge forms an eddy by the rapid and suddenly arrested flowing waters. The sorting power of water was well exemplified in the different accumulations of sand observed. Not less than five zones or series of sand bands were seen at different levels above low water mark, in which the materials