

the glacier or by a stream issuing from a glacier, or whether deposited from suspension in the sea, cannot be determined.

An excavation being made for a railway switch at the Montreal Light, Heat, and Power Company's new plant on the southeast side of the Lachine canal showed very interesting relations. A section of 15 feet on the face of the cliff toward the Lachine canal showed:

10 ft. gravel (See p. 33).

5 ft. bluish-grey quicksand.

The upper part of the quicksand was oxidized to a brown colour, the line of demarcation between the two colours being diagrammatically shown in Figure 10, page 42. The quicksand, when traced to the southeast, was seen to pass into boulder clay by a gradual loss of the sand and increase in number of boulders. No line of demarcation could be made, and the quicksand must be regarded as a phase of the boulder clay. The quicksand was nearly dry at the time when it was seen, but even so, when a horse walked over it, the surface could be seen to vibrate for a distance of 10 feet around the horse.

At the new Customs house on McGill street, opposite the end of Wellington street, quicksand caused considerable trouble. First attempts to construct a foundation by ordinary open excavations were unsuccessful by reason of the continual influx of quicksand, which, over night, filled or partially filled up the excavations as made, and at the same time placed in jeopardy the safety of the surrounding buildings. Consequently another method had to be introduced and caissons were sunk under compressed air to bed-rock, and even so, it was necessary to work continually and to concrete the foundation immediately bed-rock was reached. The distribution of the drift over the area worked varied considerably. A partial section showed:

6-25 ft. dark brown to black quicksand at surface.

6-8 ft. boulder clay.

1 ft. gravel.

28-12 ft. boulder clay.

4-1 ft. sand and gravel.

Bed-rock at a maximum depth of 74 feet (Utica shale).