

No specimens from this boring were received, but it is pretty evident that it did not penetrate to the bottom of the boulder-clay and other drift deposits. The upper layers, 1 to 3 inclusive, aggregating 91 feet in thickness, are apparently the fine silty deposits, which form a mantle over an extensive region on both sides of Regina, and represent the sediments of a large later glacial lake. The remaining beds are referable, with little doubt, to the boulder-clay and associated deposits. These are here remarkably thick and must fill a deep pre-glacial hollow. It is instructive to compare this boring with two of those executed by Dr. Selwyn, in 1880, in the vicinity of the Souris River, and about 120 and 140 miles respectively south-east of McLean. The material passed through in the borings is very similar, consisting of alternating clays, gravels and sands. These borings are described in the Report of Progress of the Geological Survey for 1879-80, (pp. 8A to 10A). The first was on the Souris Plain, at a point west 10° south, from the mouth of Moose Mountain Creek, the surface being about 1,590 feet above sea-level, and the depth 155 feet. The second, 700 yards east of where the old Boundary Commission trail crosses North Antler Creek, at an estimated elevation of 1,595 feet, and was also 155 feet in depth. Neither penetrated to the bottom of the drift deposits, and though not nearly so deep as the well at McLean, the contrast between the depth of drift met with in them, and the shallow covering of superficial deposits found a short distance further west in the Souris region is sufficiently marked, and similar to that existing between the boring at McLean and that at Belle Plaine Station. This, with the trend of the water-courses in this region of the plains and that of the escarpment of the Missouri Côteau, would appear to indicate a wide and deep pre-glacial hollow, with a north-west and south-east direction which, though partly filled with drift deposits, has not been entirely obliterated by them, and still makes its influence apparent in the ruling surface features. It may probably have been occupied by a river or system of streams in pre-glacial times, though the probability of subsequent changes in relative level in the Northwest, leaves it uncertain in which direction the waters discharged.

Neither of the borings made by Dr. Selwyn, yielded much water, and the probable inference is, that the permeable layers included in the drift deposits, are not continuous, but rather lenticular in character, and that no important source of water is to be found in these deposits in this belt of country. It would appear, however, by no means improbable, that a more abundant supply of water and, possibly, flowing wells might be obtained by sinking to the bottom of the glacial deposits. The pre-glacial depression is likely to have gravelly or sandy layers still flooring it, which might be expected in such a position, to be charged with water.

V.—WELLS AT REGINA.

In the vicinity of Regina, several borings have been made for water. The only one of these of which I have been able to obtain a description is one sunk by the Northwest Mounted Police, near their barracks, and for this I am indebted to Mr. A. L. Perry. It attained a depth of about 100 feet only, and is evidently entirely in alluvial and drift deposits. Water in limited quantities was obtained in layers 5 and 9, amounting, at the date at which Mr. Perry wrote (the spring of 1883) to about one barrel in three minutes. The water rose to within twenty feet of the surface.