

weeks earlier gave a larger proportion of alkalies, equal to 0.3400 of chlorids; of which 0.0596, or 17.53 per cent, were chlorid of potassium.

2. This spring occurs on the bank of the Jacques Cartier River, a little above Quebec. It is strongly impregnated with sulphuretted hydrogen, and appears to contain a considerable proportion of borates. It was collected for analysis in the summer of 1852.

3. This water is from a spring in the township of Joly, on the opposite side of the St. Lawrence, a few miles south from the last, and like it is sulphurous, and affords a strong reaction of boric acid. It was collected for analysis in July 1853.

4. A small area of marshy ground in the seigniory of Nicolet, near the line of St. Gregoire, is, like the similar tract in Chambly, so impregnated with mineral water as to be destitute of vegetation. The water collected in a small pit dug in this locality in the autumn of 1853, was yellowish colored, and alkaline to the taste, and gave by analysis the above results. Several other alkaline springs occur in this vicinity. All of the preceding waters, with the exception of No. 2, which comes from out the Utica slates, rise, like that of Chambly, from the Hudson River formation.

5. This water, unlike the preceding, is that of a large river, the Ottawa, which drains a region occupied chiefly by ancient crystalline rocks, covered by extensive forests and marshes. The soluble matters which it contains are therefore derived in part from the superficial decomposition of these rocks, and in part from the decaying vegetation. The water which was taken at the head of the St. Anne's rapids, on the 9th of March 1854, before the melting of the winter's snows had begun, had a pale amber-yellow color from dissolved organic matter, which gave a dark brown hue to the residue after evaporation. The weight of this residue from 10,000 parts, dried at 300° F., was .6975, which after ignition was reduced to .5340 parts. As seen in the above table, one half of the solid matters in this water were earthy carbonates, and more than one third wassilica, so that the whole amount of salts of alkaline bases was .088 (of which nearly one half is carbonate of soda); while the St. Ours water, which resembles that of the Ottawa in its alkaline salts, contains in the same quantity 4.248, or more than forty-eight times as much. The alkalies of the Ottawa water equalled as chlorids, .0900, of which .0293, or 32.5 per cent, were chlorid of potassium. The results of some obser-