mineral condition, but our evidence is still insufficient to state such to be the case with certainty.

3. The calcareous and fossiliferous group which was last year observed at the Forks of the Chat, resting on the southern base of the mountain range, strikes from them nearly due west (magnetic,) and occupies a similar relative position to the range, on the south bank of the Matan. At the bottom of the group, there is a band of white quartzose sandstone spotted with red ferruginous stains and weathering of a rusty yellowish colour; it attains a thickness of about seventy feet at the mouth of the Tawagadee, and shews an occasional outcrop on the Matan, between that tributary and Trout River. The latter stream, intersecting the group, exposes a section of the lower members of the calcareous portion of it, about 500 feet thick, consisting of beds of blue limestone, occasionally containing a few fossils, and gray calcareous shales, with thin blue limestone bands. The dip of the lowest beds seen on Trout River was found to be 164° < 54°, but at the end of the section the inclination decreases to 28°, and probably becomes nearly horizontal to the southward, corresponding with the level character of the country. The limestone escarpment rises boldly over the south bank of the Matan, between the Trout River and the lake gorge, to the height of 500 or 600 feet, and the upper part of the ridge is composed of massive beds of blue or gray limestone, holding numerous fossils, which however are generally in a very obscure condition; among the fossils were observed *Conularia, Leptena, Atrypa, Spirifer*, numerous univalves, (principally of one species,) and a few orthoceratites and encrinital columns. Both the sandstones at the bottom and the limestones at the top might become serviceable for building purposes; but I am inclined to think the latter to be generally too siliceous to be capable of being burnt into lime.

Near the source of a small brook, which falls from the limestone ridge, and joins the Matan about five miles above the junction of Trout River, some springs of a mineral character were observed; a strong sulphurous odour was perceptible on approaching their issues, and there was an incrustation of a yellowish white material, sometimes varied with a pinkish tinge, around their edges, and in the bottom of the brook for a short distance below where their waters united; the water was limpid and the mineral taste very weak; a feeble evolution of gas was perceived at intervals of several minutes, and their temperature at mid-day was 48° Fah., while in the open air the thermometer stood at 66°. These springs are greatly resorted to by herds of caribou or rein-deer, and numerous broad paths beaten by their feet, diverge from them in all directions.

Although this group has not hitherto been met with on the south side of the Notre Dame Mountains, east from the Three Forks of the Chat, its direction at that point, which is parallel with the general run of the range, would bring it to a position between three and four miles south from the lake described as the presumed head of the north branch of the Cascapedia. But farther east the presence of trap in Mount Albert, and its probable presence in the Barn-shaped Mountain of last season, renders it not unlikely that, disturbed by volcanic action, its regularity may be discontinued. Having however no canoes on this lake, nor the means of making them, we were unable to descend the stream issuing from it, without risking the loss of much time by a pedestrian excursion, to gain the information that might have been acquired. Supposing the limestone formation to be disturbed as suggested, dislocations and mineral veins will be the probable result, and as the rock is known to be a lead-bearing one in other places, the ores of this metal in connection with such veins might be the result. The formation is supposed to be the equivalent of the lead-bearing limestone of Wisconsin, and indications of that metal having been observed in it in the nearer locality of Gaspé, where two veins exist within the space of two and a half miles of one another, the vicinity of Mount Albert seems to be a region worthy of research.

The St. John River runs on the strike of this formation from about thirteen miles above its entrance, to the highest point we reached, nearly along the course of an anticlinal axis, which would appear by the direction of the hills, to come out upon the coast near Malbaie. The rocks displayed by the river section belong to the upper part of the series, and consist of blue hard siliceous limestone weathering dark-brown, blue and gray thin-bedded limestones, and gray calcareous shales. The thin-bedded limestones are frequently nodular and shaly, and chert is found associated with them in some parts. Some beds may be found to yield good material for burning into quick lime, but I should suppose that they are generally too siliceous to be well adapted for such a purpose. The only fossils detected in this formation on the St. John were a few fucoides, among which was one resembling the *Fucoides cauda-galli* of Vanuxem.

On each side of this valley of elevation, the strata slope at a sharp angle, dipping to the northward on one, and to the southward on the other side of the river, and are succeeded at a short distance from each bank by the sandstone formation, which chiefly occupies the interior between this river and the heads of the Bonaventure in one direction, and between it and the Southwest River of Gaspé in the other.

4. The lower thirteen miles of the St. John flows over a portion of the Gaspé sandstones, keeping so nearly in the direction of their strike, that the same beds are seen for considerable distances. On the river, the immediate junction of these rocks with the inferior limestones is concealed, but at a little distance below the point at which it probably occurs, a strong bed of drab coloured sandstone, of a moderately close texture, is seen turned up at a very high angle, the dip being 36° < 81°, but gaining on the measures about a mile further down the stream, the inclination becomes very moderate, and points to the northward the rest of the distance towards the mouth, at an angle varying from 7° to 20°. The general character of these rocks is that of drab coloured coarse-grained sandstones, sometimes in thick massive beds, at others in thin irregular strata, interstratified with greenish-gray arenaceous shales, the sandstone beds sometimes parted by thin beds of carbonaceous shale, composed almost entirely of carbonized and comminuted vegetable remains. Various sized pebbles are frequently scattered through the sandstones irregularly, although nowhere sufficiently numerous to constitute a conglomerate. Red or brownish coloured nodules are distributed through some of the beds, from which proceed extensive ferruginous stains, and the divisional plains of the rock are generally thickly covered over with carbonized and comminuted remains of plants. Shells were likewise frequently met with, among which the genus *Spirifer* was common, and large loose masses were found on the banks and in the bed of the river, composed almost exclusively of shells inclosed in an arenaceous matrix, which so strikingly resembled the fossil bed found the previous season on Mr. Becharvaise's lot, near the Southwest Arm of Gaspé Basin, both in the character of the shells and the mode of their deposit, as to favour the probability of their having proceeded from a continuation of the same stratum.