

smaller concretionary or "gravel" ore. In some places the ore of iron is associated with concretions or crystalline masses of Pyrolusite and Manganite.

Denuding agencies in the Post-pliocene period have removed portions of the vein and its wells, and have deeply covered the surface in many places with debris. Hence the outcrop of the vein was originally marked by a line of masses of the ore too heavy to be removed by water. From the analogy of the other veins to be mentioned in the sequel, I was led to believe that the source of these masses would be found in the Lower Carboniferous rocks, and so stated the matter in the first edition of *Acadian Geology* (1855). Subsequently, however, the vein having been exposed in situ, and one wall proving to consist of metamorphic slate, it was described by Dr. Honeyman and by Mr. Hartley of the Geological Survey as a vein in the Silurian rocks. Still more recently exploratory works conducted by Mr. G. M. Dawson, with the aid of Mr. D. Fraser, have clearly proved that the vein follows the junction of the two formations. The ore of this vein is of the finest quality, affording from 62 to 65 per cent. of metallic iron. The more productive portions of this vein, as well as of the specular vein in its vicinity, are in the hands of the parties already referred to, in connection with the Hematite bed.

(3) *Limonite of Shubenacadie, Old Barns and Brookfield.*

At the mouth of the Shubenacadie River, the lowest Carboniferous bed seen is a dark-coloured laminated limestone, in all probability the equivalent of the Manganesian limestone already referred to, as well as of the Manganiferous limestone of Walton, the Plumbiferous limestone of the Stewiake, and the lower black limestone of Plaister Cove, Cape Breton.* This limestone and the sandstones and marls overlying it, are traversed by large fissure veins, holding a confused aggregation of iron ores and other minerals, as Limonite, Hematite, Gothite, Sulphate of Barium, Calcite, &c., some of which appear sufficiently large and rich for profitable exploration. In the same formations, further to the eastward, at Old Barns, similar veins are found to be largely developed, and at Brookfield, fifty miles east of the Shubenacadie, and apparently near the junction of the Lower Carboniferous with older rocks, large surface masses of Limonite

* See *Acadian Geology*.