

*Bitumen in Calcite.*—This interesting addition to the minerals of the province was made by W. Barnes, Esq., Mining Engineer of Halifax, who kindly furnished me with specimens, and gave me some details as to its mode of occurrence. It is found in Inverness co., Cape Breton, in an elevated range of altered rocks in which the lower carboniferous strata are apparent. Limestone is abundant but very much altered, and rests at a high angle of inclination on altered black shales containing much pyrites; gypsum also occurs in the neighbourhood.

The mineral is dull black externally; it breaks with a conchoidal fracture, giving a very brilliant jet-black surface. It is scattered in separate masses on the surface of a highly siliceous rock, containing pyrites among calcite in six-sided prisms and in dog-tooth crystals. Some of these masses are an inch or more in length, of rounded outline, and lie free; others, smaller, are nearly surrounded by groups of crystals; in one case a mass is imbedded in a nearly transparent crystal; and sometimes the calcite when broken exposes a brilliant surface of enclosed mineral. These masses look occasionally like a drop of black wax melted on to a crystal of calcite, and are sometimes perfectly globular. It is brittle and affords a black powder. In a closed tube it softens, swells, gives a bituminous odour and a little oil. On platinum it swells up and burns with a smoky flame to a bulky black porous residue, not having the coherence of coke, and finally leaves a very small ash. It sinks in benzine and floats in bisulphide of carbon; so that its specific gravity is probably about 1.1: it dissolves to a small extent only in these menstrua, and after being boiled in them is readily powdered under a glass rod. It cannot be distinguished in appearance from the Albertite of New Brunswick, the mineral which has been called Albert coal and New-Brunswick asphalt. It resembles this mineral also in being slightly affected by benzine; but it dissolves somewhat less freely in bisulphide of carbon, which I find to become rapidly coloured on Albertite, especially when heated (this property does not seem to have been noticed in the discussion as to the character of this mineral). Side by side with Albertite on an iron plate on which tin had been melted for a short time, it smelted of bitumen, became tough and somewhat elastic, and finally rubbed down to a brownish-black powder, while the Albertite scarcely smelt, but also became tough and somewhat elastic under a glass rod, and rubbed down to a black powder. I regret not being able to compare the composition of these minerals: Professor Anderson of Glasgow was kind enough to undertake an ultimate analysis of the Cape-Breton bitumen, but at the close of the combustion an unfortunate accident deprived him of the results. There appears unquestionably to be