

I have examined on the coast of British Columbia, to the southward, may very probably be of Triassic age and referable to the Vancouver series of the reports of the geological survey of Canada.¹ On the northeast side, in the immediate vicinity of the Treadwell mine, the ore-mass is bounded by a zone about seventy feet in thickness of greenish schistose slate, but it is uncertain whether this zone owes its character to peculiar alteration, or to a difference in original composition, as the slaty rocks as a whole, do not show any marked degree of alteration in the vicinity of the ore. A slate 'horse,' more or less completely silicified, is passed through in one place in the main working drift, but its character as a portion of the country rock is still clearly apparent. The argillites or slaty rocks are often found to be flexed and tilted at high angles along this part of the coast, and it is probable that the main period of elevation of the coast ranges has been subsequent to that of their deposition.

The ore itself presents none of the characters of that of an ordinary lode or vein, being without any parallel banding or arrangement of its constituent minerals, and showing no such coarse crystalline structure as a lode of larger dimensions might be expected to exhibit. It is, on the contrary, a nearly homogeneous crystalline mass, of medium grain, and pale grey in color, evidently consisting principally of quartz and white feldspar with a little calcite, and specked throughout with small cubical crystals of iron pyrites. The quartz, however, as well as the calcite and pyrites, may occasionally be found traversing the mass in small irregular veinlets and stringers, and the pyrites in some instances forms little distinct aggregations or bunches.

A clue to the true nature and origin of this deposit, (otherwise of a somewhat enigmatical character) appears to be afforded by the existence in it, in some places, of kernels of a distinctly granitoid appearance. Some of these were observed to be six inches in diameter, and portions of others were found which may have had a diameter of several feet. The material of these kernels—which around their edges blend imperceptibly with the main mass,—is similar in size of grain to that of the ore-mass itself, but includes little or no pyrites. It is harder and less evidently decomposed, often greenish in tint from the

¹See Annual Report Geo. Sur., Can., 1886. p. 10 B.