

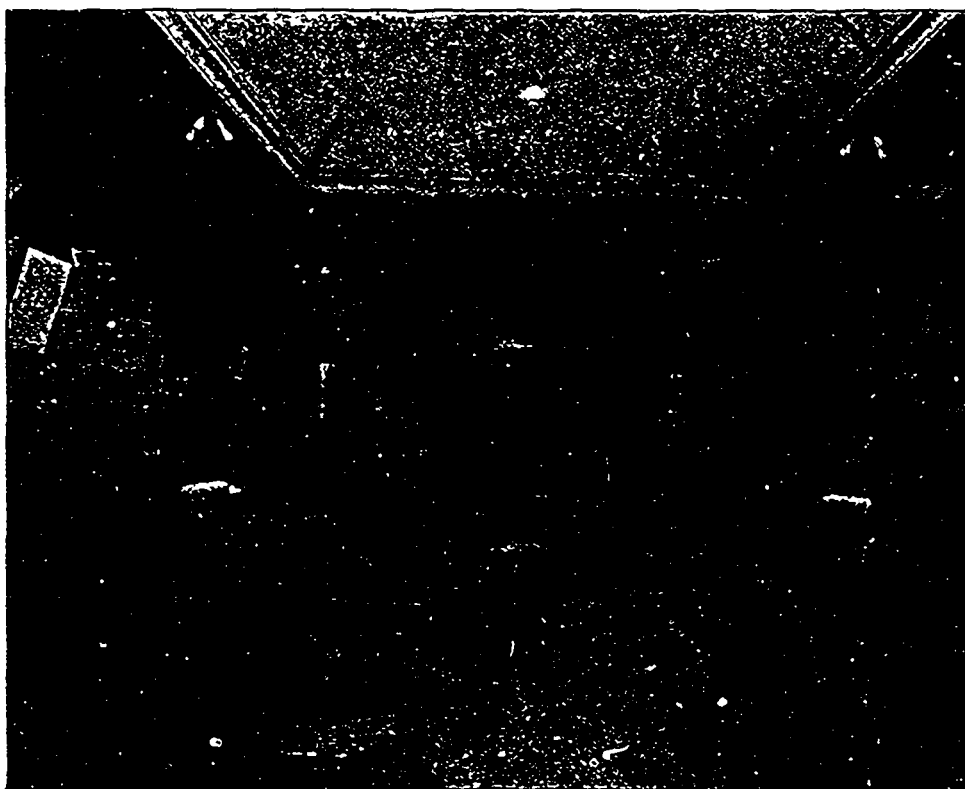
been cut by these streams, it is being attacked from the valley by hydraulic methods.

Since the previous visit of the writer, the development of the camp has rendered clear many points which were previously little more than indications, and as such were given in the Report of 1900. The conclusions then arrived at have been almost exactly borne out by the subsequent work; the area of the field remains the same; the evidence is strengthened that Pine and Spruce creeks at one time joined about Etaphendyke and then debouched to the north, towards Trond gulch, emptying into a lake which then covered all the flats at the Half-way house, and that the present course of these below this point is of more recent cutting. The "old yellow channel" has developed along the lines then indicated, but to an extent not then hoped for.

In 1900 the Provincial Mineralogist attempted to ascertain the direction of flow of this yellow dirt, by taking levels at

rounded or flat water-worn form and faces of the gravel, and, above all, by the "chingling" of the flatter stones in the deposit, while the gold is usually on bedrock or in some defined stratum.

All of such evidence of flow is lacking in the old "yellow deposit of Atlin, and while some of the boulders are large and rounded, many are angular, the flat ones often standing on edge, as though so dropped into mud in still water. The greater part of the deposit consists of granite fragments, now almost decomposed, with resultant clay (kaolin) and grains of silica. While the gold here is found for the most part near bedrock, though not necessarily on it, it occurs some height above—more or less throughout the deposit. The characteristics of the deposit did not seem to admit of its having been caused directly from glaciers. The evidence is such as to force the conviction that this deposit was not formed in rapidly running water, but that it was dropped in compara-



THE NEW QUARTERS OF THE CANADIAN MINING INSTITUTE—THE LECTURE HALL.

various points, and while these levels were not conclusive, they indicated a flow, which subsequent work has confirmed, giving a grade to the deposit conforming in direction to the flow of Pine and Spruce creeks, but it is so slight (being between 1 and 2 per cent.) that it is difficult to believe that the heavy material in the deposit would be carried by a current produced by such a grade; and further, the workings of the hydraulic pits, etc., notably that of the North Columbia Co., on Pine creek, expose a face in which the heavy boulders and angular fragments are so deposited together as to render it extremely improbable that this deposit is an "old channel," in the usual meaning of that term: viz., the bed of an ancient stream.

In Cariboo, and elsewhere in British Columbia, where the placer deposits occur, the "old channels" contain in themselves the evidence of the direction of their flow; and this is shown by the more or less uniform size of their constituents, by the

tively still water on a bottom (bedrock) such as that of a lake or sea, with a slope, but not a channel. As to exactly how the dirt was deposited, there is room for various theories, but the most probable seems to be that glaciers, carrying in their bases the dirt, slid into a sea or lake and, driven by wind or current into this bay, there melted, the dirt dropping to the bottom, gradually forming the deposit in question.

This is further borne out by the fact, reported by the Superintendents, that in the Deeks pit, on Pine creek, during the hydraulic working, a layer of seashells was found in and near the top of the yellow dirt. This layer was very local, and did not extend to the adjoining pits, and was, unfortunately, all washed away before the Provincial Mineralogist visited the camp.

It is not very clear where these glaciers were formed as certainly no quartz has been found in the vicinity which would justify the belief that it is the *madre de oro*.