

the blue quartz there is not only no clay parting, but the quartz seems to have replaced the slate, retaining the structural features of the latter and becoming difficult to distinguish underground from the country rock.

Subsequently to the deposition of the ore of both



Aerial Tramway—Ymir Mine—to Mill.

these bodies, the dykes were intruded and the fractures which rendered their presence possible seem to have been followed by movements more or less in the direction of the plane of the vein and in parts, along both walls, with the result that other fissures were formed, some extending for some distance into the footwall country, diagonally to the strike of the vein, and others along the hanging wall. These last fissures are filled with a very nearly barren white quartz, carrying at times sharply angular fragments of slate.

The later movements have also created fractures in the ore body, along one of which at least, where there is a local concentration of galena,—oxidising action has been going on with the result of producing a band of "carbonate," affording fine specimens of Cerussite and a local but marked increase in the gold values, the gold being largely free but invisible except after careful panning.

Another effect of these movements is the faulting and fracturing of the dikes and their being rendered more easily subject to alteration. This faulting movement is in the direction of the plane of the vein, but nowhere has it been extensive; *i.e.*, not more than 3 or 4 feet. The material along the plane is usually so soft as to make it difficult to get specimens shewing striation, still we have one from the hanging wall side with two distinct series of striae.

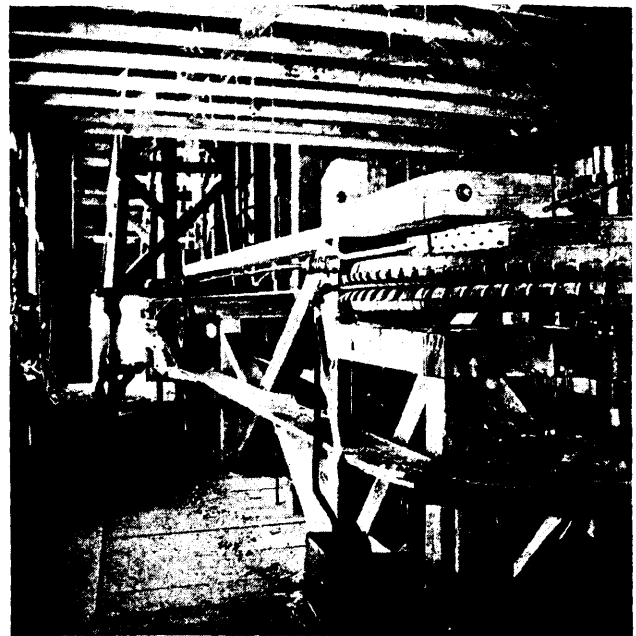
Stoping has not yet proceeded far enough to enable us to know all we desire of the structural features of the vein, but before leaving this part of our subject, I may cite an interesting freak of the larger of the two main dikes we have met with. In the No. 2 Level a four-foot dike comes squarely up to the footwall, where it turns a right angle to the left along the wall, and so continues, gradually curving to the right for

20 feet where it crossed the drift squarely. Going through the dike we found slate, and cross-cutting on the outer side of the dike, we found it suddenly turning again and butting against a fault fissure, nearly filled with two feet of calcite. Just how or where the dike proceeds into the hanging wall we do not yet know, nor is it specially important. The main point to be observed is that our failure to closely examine what we presumed to be the footwall rock led us astray, and into an expanse which was useless at the time except to reveal an interesting structure.

We have not yet developed any special mining system at the Ymir, nor have we so far encountered the necessity of any, for the first stoping was done only in March last, and since the first of June our mill has been principally employed in handling an accumulation of several thousand tons on dumps.

However, the fact that much of the ore body is too wide for stulls and that good mining timbers are scarce, together with the pressure of what will probably prove itself to be a not too strong hanging-wall, will undoubtedly necessitate a system of combined crib-work, filled with waste and of square setting.

The mine produces two general classes of ore; first, mill stuff; second, crude ore. The former is sent directly to mill by a Hallidie Ropeway, about 2,400 feet in length from the mouth of No. 3 Tunnel, *i.e.*, the lowest which has exit to the surface. The second general class consists of two sub-classes, crude galena and oxidized ore or carbonate. Both of these are small in amount compared to the milling ore, and they are shipped directly to the Hall Mines Smelter at Nelson, the crude ore in bulk and the carbonate in sacks. Milling material on reaching a bin at the lower tramway terminal passes through a No. 3 Gates



Interior View of Tramway Loading Station at Mine.

crusher, which reduces the coarsest to pass about a 2-inch ring. Below the crusher is a 200-ton bin, from which the feed passes by a tram-car after being weighed, into the battery bins proper. The crusher and tram terminal are in a separate building, but the cost of tramping is a very small item.

The mill proper embraces a 40-stamp 850-lbs. bat-