

THE ALASKA-TREADWELL MINE

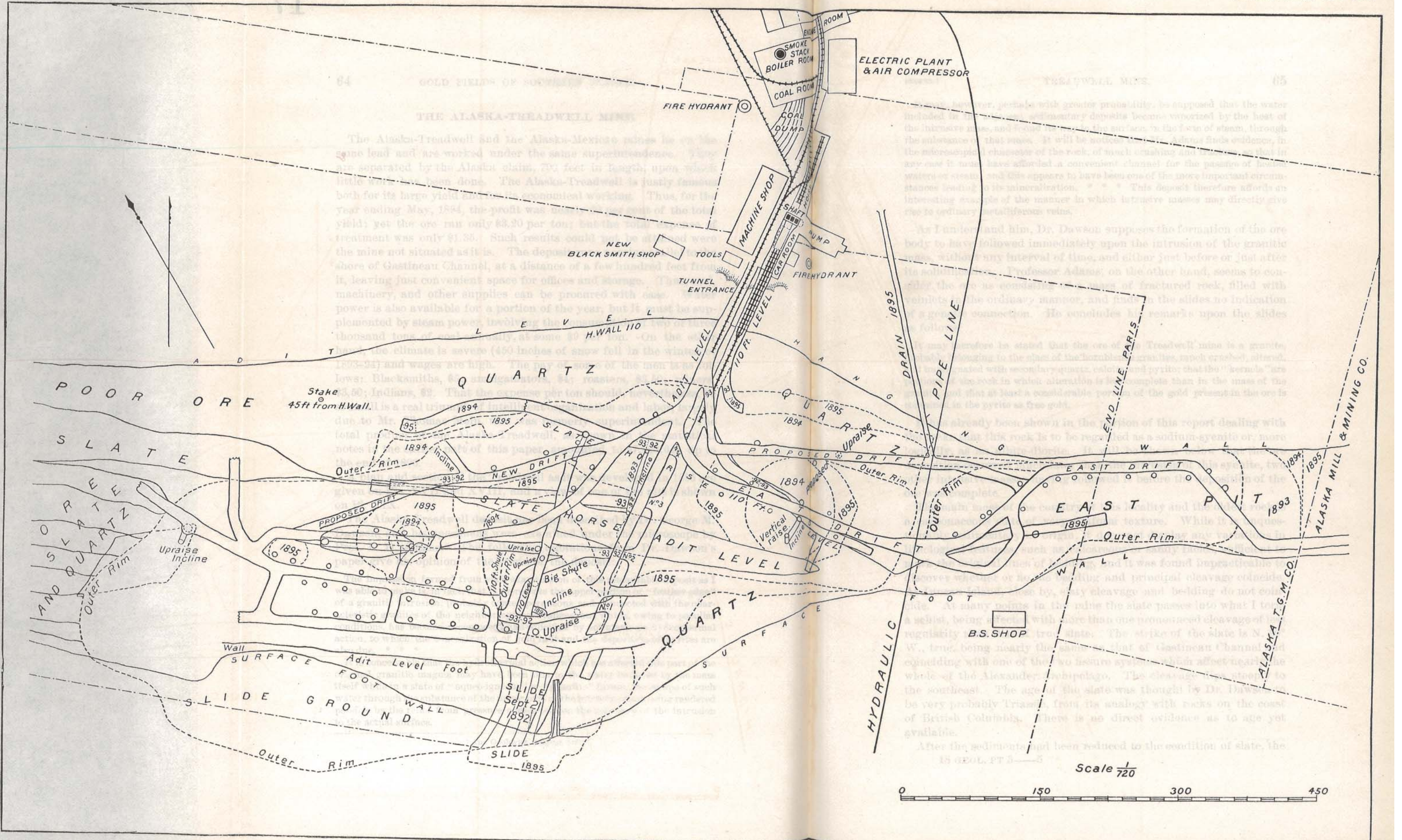
The Alaska-Treadwell and the Alaska-Mexico mines are worked under the same superintendence. They are separated by the Alaska claim, 700 feet in length, upon which little work has been done. The Alaska-Treadwell is justly famous both for its large yield and its economical working. Thus, for the year ending May, 1894, the profit was \$1,000,000 and the total yield; yet the ore ran only \$3.20 per ton but the cost of the treatment was only \$1.35. Such results could not be obtained if the mine were not situated as it is. The deposit is situated on the shore of Gastineau Channel, at a distance of a few hundred feet from the shore, leaving just convenient space for offices and storage. machinery, and other supplies can be procured with ease. power is also available for a portion of the year but it must be supplemented by steam power, involving the use of a few thousand tons of coal.

...perhaps with greater probability, be supposed that the water included in the sedimentary deposits became vaporized by the heat of the intrusive mass, and would rise to the surface by the force of steam, through the substance of that mass. It will be noticed that Professor Adams finds evidence, in the microscopic character of the rock, of much crushing and that in any case it must have afforded a convenient channel for the passage of mineral waters or vapors, and this appears to have been one of the more important circumstances leading to its mineralization. This deposit therefore affords an interesting example of the manner in which intrusive masses may directly give rise to ordinary metalliferous veins.

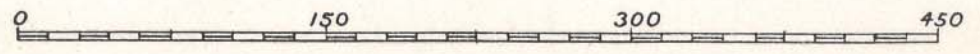
As I understand him, Dr. Dawson supposes the formation of the ore body to have followed immediately upon the intrusion of the granitic mass, without any interval of time, and either just before or just after its solidification. Professor Adams, on the other hand, seems to consider the ore as consisting of fractured rock, filled with mineral matter in the ordinary manner, and finds in the slides no indication of a connection. He concludes by remarks upon the slides that the ore of the Treadwell mine is a granite, according to the opinion of the honorable geologists, much crushed, altered, and associated with secondary quartz, calcite, and pyrite; that the "kerals" are the rock in which alteration is complete, and that the gold is present in the ore in the pyrite as free gold.

It has already been shown in the preceding portion of this report dealing with the Treadwell mine, that the rock is to be regarded as a sodium-syenite or pure syenite, and that the alteration is complete in the mass of the rock. It was found impracticable to follow the cleavage and principal cleavage coincides with the cleavage of the syenite, and bedding do not coincide. At many places in the mine the slate passes into what I call a schist, being with more than one pronounced cleavage of irregularity in the slate. The strike of the slate is N. 10° W., true, being nearly the same as that of Gastineau Channel, and coinciding with one of the two fissure systems which affect nearly the whole of the Alexander heptagon. The cleavage is directed to the southeast. The age of the slate was thought by Dr. Dawson to be very probably Triassic, from its analogy with rocks on the coast of British Columbia. There is no direct evidence as to age yet available.

After the sediments had been reduced to the condition of slate, the



Scale 1/720



PLAN OF ALASKA-TREADWELL MINE.