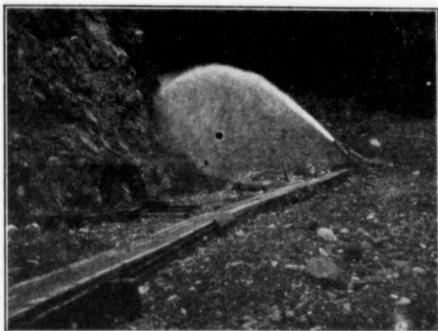


panying map you will see that the sphere of influence of the company is bounded on the north by the South Fork; on the east by the Quesnelle Lake; on the south by the watershed of Polley, Boot-jack, and Morehead lakes; and on the west by Morehead Creek and Quesnelle River.

That portion of the area which at present is being mined is an ancient river almost paralleling the South Fork, and with outlet at Dancing Bill Gulch. Before the Consolidated Cariboo took hold, work was carried on here by Chinamen, who worked up the channel about 1,000 feet, took out at least \$900,000, and



Last Hour's Run at Bullion, 1903.

left piled up, for their successors to remove, all the boulders and tailings.

Pit No. 1, to which work was confined in 1903, is of vast proportions: between the rivers the distance is 900 to 1,100 feet, from the "bend" at Dancing Bill Gulch to the face 1,200 feet, and from the top to bottom of the banks 400 to 500 feet. To the "bend" the strike is north 70 degrees west, thence almost magnetic north to the river. A wedge-shaped wall of rock separates the modern South Fork from the ancient stream, and towers up 420 feet high on its eastern side of the pit, with eight high-grade strata marked on it by erosion of rock and the coarse gravel which there remains lodged. This country rock is a diorite, and has associated with it a pinkish syenite which appears to have intruded the older rock and occurs in large quantities, also, in the bed and the western rim. Specimens of both rocks were taken, and sent to Mr. O. E. LeRoy, petrographist of the Canadian Geological Survey, for determination. He has classified them respectively as gabbro-diorite and quartz-syenite-porphry. His description of their microscopic characteristics is as follows:

(A) Gabbro-Diorite—"The rock consists of large, irregular plates of brown hornblende, rounded idiomorphic individuals of pale green pyroxene, and large and small lath-shaped feldspars which are finely twinned and are probably labradorite. Iron ore (magnetite and a little pyrite) occurs in considerable abundance. Apalite is also present in small amount. The rock is fresh, being comparatively free from secondary minerals."

(B) Quartz-Syenite-Porphry—"The rock consists principally of slender and short laths of finely twinned plagioclase, probably albite. Interstitial to these larger individuals are smaller ones of feldspar and rounded grains of quartz. This matrix or ground mass is not in large amount. The mica, but sparingly represented, has altered to chlorite. A few shreds of muscovite, a grain or two of zoisite, and a little magnetite, complete the mineral content. The structure is porphyritic and suggests that the rock is either a dyke or the border facies of a granite or syenite intrusion."

The rock named by Mr. LeRoy gabbro-diorite has also been classed as augite-diorite. There is no discrepancy in the two names, for augite or pyroxene is an essential constituent of gabbro.

The present face is 350 feet deep and consists of top gravel (40 to 50 feet), boulder clay, and about 200 feet of yellowish gravel—out of this gravel it was that the giant during the last four days of the run washed \$8,000. The lower portion of the pit has been bared to bed-rock by the removal of the gravel in four benches. This method of washing was necessary because of the grade of the sluice, though had the company permitted Mr. Hobson he would have driven a sluice through the eastern rim and washed to bed-rock at one blow. The main sluice is 1,200 feet long, 1,150 feet of which was cut through bed-rock at a cost of \$27,000; above the cut the sluice forks, and each prong is 1,100 feet long, thus making the total amount of bed-rock flume 3,400 feet. The sluice boxes are seven feet wide and four feet deep, paved with improved steel riffles and with blocks, and run on a grade



"A wedge-shaped wall of rock separates the modern South Fork from the ancient stream."

of 6¼ per cent. Dump causes no anxiety, for the South Fork runs with a swift current through a deep channel between steep sides. As the sluice-cut is now as deep (60 feet) at its lower end as it can be made without impairing the dump; and at its upper end is at the level of bed-rock which rises in the pit on a grade of one per cent., and further, as washing at the face 1903 was 35 feet from bed-rock, the sphere of usefulness of the long sluice line is limited. A tunnel will have to be run in from the South Fork—on a five