

The expense of hoisting from this shaft to a higher level, together with the cost of keeping it unwatered, added so much to the cost of mining that the company decided to abandon the workings temporarily, and to drive a long cross-cut tunnel to the vein at the 1,400-foot level, putting up a raise in continuation of the shaft, thus reaching the known ore body from below. Mr. Zwicky said he felt sure he had sufficient ore in sight on levels 7 and 8 to liquidate any loan obtained to complete the new work.

"The portal of the new tunnel is located on Dardanelles creek, about halfway between McGuigan Station and the old mine-workings, and near the wagon road. The tunnel is 9 feet 6 inches high by 7 feet wide (7 feet 6 inches by 7 feet in the clear) and about 4,500 feet long, cutting the vein at more than 1,400 feet deep, or 600 feet deeper than No. 8 level.

"The contract price at which the first 2,500 feet of this tunnel was driven was between \$10.50 and \$11.50 per lin. foot, the company supplying only the compressed air for drills, the contract price covering everything else; the remainder of the tunnel was driven by day work. The gross cost of the entire tunnel, including management and all expenses, was \$14.60 a lin. foot, and the rate of progress made was 7 feet 3 inches a day of 24 hours.

"This lower tunnel is about 4,500 feet from the portal to the intersection of the vein on the 1400-foot level. The vein at this part of the 1400-foot level was, for some reason, so tight that when the tunnel was driven through it, it was not recognized and the tunnel was driven 90 feet past the point where the projection of the vein indicated it should be; consequently it was determined to reach the vein at the nearest point under the old shaft, and a diagonal drift was made, from which a raise was started in country rock; when this raise had been put up for 200 feet, at the 1200-foot level, a cross-cut was made, and, after having driven 47 feet, cut the vein, which was here found to be 8 feet wide, and showed several streaks of clean galena. From the 1200-foot level upwards, raising was continued, on the vein, to the 800-foot level.

"Subsequently, a second raise was put up from the 1400-foot level, so as to connect and be in line with the raise from the 1200-foot up to the 800-foot level. The ore shoots above the 800-foot level have been nearly all exhausted, and this raise and its levels constitute a new mine.

"From the raise, various levels have been driven on the vein; at the 1400-foot level, for 390 feet to south and 140 feet to north; at the 1200-foot level, for 600 feet to south and about 140 feet to north. Levels were also started at the 1050-foot and 900-foot levels, and have been driven some distance.

"The ore bodies in the old workings were chiefly to the north of the line of the raise; one ore shoot on the 700-foot north level was 60 feet long in the level, and this same shoot was also cut by the 900-foot north level, but it has not, as yet, been found on the 1050-foot north level, although some scattered ore was encountered. The 1200- and 1400-foot north levels have not been driven far enough to find the ore shoots which, it is thought, probably exist in that ground.

"To the south of the raise a first ore shoot extends from the 700-foot south level, down past the 900-foot level, but this shoot has not been reached by the 1050-

foot south level, although cut by the 1200-foot level; the top of another shoot, or lens, appears on the 1050-foot level and is cut by the 1200-foot level, on which it extends on the level for some 60 feet, and contains ore, from 8 to 16 inches in width, of the usual grade.

"A little farther in on these south levels the south ore shoot extends from the 700-foot level downwards to the 1200-foot level; at the 800-foot level it is 75 feet long; at the 900-foot, 160 feet long by about 5 feet wide; at the 1050-foot level it is about 60 feet long by 7 feet thick; while, at the 1200-foot level, this level, in September, had been driven on the shoot for about 100 feet and the face was still in ore. (Later reports from Mr. Zwicky say that since then the tunnel has been driven another 100 feet in ore, with ore still in the face, and that the clean ore was, in places, as wide as 7 feet.) At the time the mine was visited (September, 1911), this face showed about 4 feet wide of clean ore and about 3 feet of milling ore. This ore-face was one of the finest showings seen in the Slocan; the ore was usually rich in silver, containing much 'grey copper.' Both the shoots on the 1200-foot south are strong in the floor and evidently continue downward, but they had not at that time been found on the 1400-foot level.

"No attempt was made to estimate the tonnage of the ore already blocked out, but it is large, and more is being opened each day as the development progresses. The development work in progress provides enough ore at present and no stoping is being done.

"The success met with in these deeper developments more than fulfils Mr. Zwicky's expectations, and justifies his judgment in driving the long tunnel at such a depth and the difficult raise, an undertaking which it must be admitted, was considered at the time to be at least risky, and calling for much pluck on behalf of the directorate of the company.

"This successful attempt at deep mining, in addition to its effect on this individual company's prospects, has had a marked effect on the future of the Slocan in general, giving encouragement to other companies to develop to a greater depth. Several other of these later attempts have also been successful, which has increased the confidence that deeper mining here has not only possibilities, but probabilities.

"The long tunnel has been driven absolutely straight, and is equipped with a single track with necessary turn-outs at the inner end, over which track one horse has no difficulty in hauling a trip of four to six mine cars, each carrying from 2½ to 3½ tons of material. The workmen are taken in and out through the tunnel on specially designed cars, propelled by hand power.

"The ore from the levels is sent in a chute down the raise to the 1400-foot level, where suitable bins are provided, from which the ore is run into the tunnel cars and transported to an ore house of temporary construction, where it is roughly sorted and clean ore shipped by four-horse teams to Three Forks, a team being able to make the round trip in a day."

It may be added that the erection of a concentrating mill in Middle fork valley, close to the new railway line from Three Forks to Bear Lake, and the construction of an aerial tramway from the portal of the 1400-foot adit level down to the mill, are in hand, while steel is being laid on the railway, so it would appear probable that late in the ensuing autumn shipment of ore and concentrates in much larger quantity than in the past will be undertaken.