

Ministry of Mines Report 1922

This property, situated at the head of the North Fork of Downie Creek, about 1 ½ miles below the summit flats separating that creek from the North Fork of the Illecillewaet river, was acquired in 1918 by the Waverley Mines Company, of Spokane [F. M. Martin, president; G.H. Walters, secretary]. Although the property is tributary to Downie Creek, which flows into the Columbia River 46 miles above Revelstoke, the present route is by an old wagon-road about 28 miles in length [estimated], following the North fork of the Illecillewaet river from Albert Canyon, on the main line of the Canadian Pacific Railway 21 miles east of Revelstoke.

The old underground workings, which are quite extensive, date back to 1897 and 1898, when the property, was being operated by the Gold Fields of British Columbia, an English company. The mines were closed down in 1890 and were idle until 1918, when the present company took them over. Since then a small crew varying from two to six men has been engaged on development during the summer months, putting in the occasional winter. Work done from 1918 to 1921 includes some 200 feet of tunnelling. The property comprises two separate groups, the *Waverly* and *Tangier*, of which the former is the most important.

The formation of the area consists of conformable beds of siliceous and argillaceous limestones, slates, quartzites, and schists, which have a north-west and south-east strike, dipping to the north-east. Both the *Waverly* and *Tangier* deposits occur in limestone.

This group consists of the *Waverly* and *Montague* (both Crown-granted), *Summit* Lode, *Mountain Goat*, *Montague Fraction*, and *Waverly Fraction* claims, which extend along and cover the steep mountain-side on the northern side of the creek from an elevation of 5,000 to 7,200 feet above sea-level. The vein, which conforms to the bedding of the country-rock, can be traced by open-cuts and stripping for over 2,000 feet along the outcrop, showing marked persistence in strike and dip (strike N. 40° W. dip 60' to 65' to N. 50' E.). The width of the vein on the surface varies from 18 inches to 4 feet.

are briefly as follows: On the *Montague* claim, at an elevation of about 6,200 feet, a short crosscut encountered the vein at a distance of 20 feet and a winze was sunk 17 feet on carbonates containing streaks of galena. A sample across 4 feet near the bottom of the winze gave: Gold, 0.04 oz.; silver, 8 oz.; lead, 11 per cent. About 350 feet south-easterly along the outcrop a sample across 18 inches in a shallow cut gave: Gold, 0.02 oz.; silver, 14.4 oz.; lead, 14.9 per cent.

On the Waverley claim, about 750 feet south-easterly from the above crosscut and at about the same elevation, No. 1 tunnel was driven 90 feet on the vein just below its apex. In this tunnel the width of the vein varies from 14 inches to 2 feet. Near the portal of the tunnel a winze was sunk on the vein to a depth of 45 feet, the lower portion of which was caved and inaccessible. A sample across 2 feet at the top of the winze gave: Gold, 0.06 oz.; silver, 39.02 oz.; lead, 17 per cent.

About 300 feet south-easterly from and 84 feet vertically - below No. 1 tunnel, No.2 tunnel is a crosscut 330 feet in length. At 85 feet in from the portal the foot-wall of the ore-body was reached and drifted on for 85 feet north-westerly and 50 feet south-easterly. The 85 foot drift breaks through to the surface. Above the intersection of the crosscut and the two drifts a small stope was started. A sample across a width of 10 feet in the stope gave: Gold, 0.24 oz, silver, 77.2 oz, lead, 18 per cent.

The crosscut, passing through the ore-body, was then continued 245 feet farther. As the ore passes by insensible gradations into barren limestone, the width of what may constitute "ore" can only be determined by extensive sampling, having in view the grade of material which can be economically milled. The total width of the mineralized zone cut by the main tunnel is approximately 66 feet, including a horse of barren limestone of undetermined width, but which for sampling purposes was assumed to be 16 feet wide. The mineralization is strongest on the foot-wall side of the zone, as shown by the above-mentioned sample taken in the stope.

Samples along the crosscut gave as follows: Across 34 feet, including the good ore on the foot-wall side: Gold, 0.02 oz.; silver, 16.02; lead, 2.5 per cent. The 16-foot limestone horse was then omitted and a sample across 16 feet on the hanging-wall side of the zone gave: Gold, trace, silver, 2.4 oz.: lead, 0.2 per cent. Little importance can be attached to these results, however, mill tests being required to give reliable information on the values to be expected.

The hanging-wall of the ore-zone, which is marked by a seam of calcite, was drifted on south-easterly for a distance of about 70 feet. The hanging wall seam was not drifted on in the opposite direction, but a little farther along the crosscut a semicircular tunnel driven north-westerly is in country-rock for the most part, but breaks into the hanging-wall of the ore zone near the face. As a short crosscut tunnel had been run off the drift at this point, it was possible to get a sample across a 16-foot section, which gave: Gold, trace; silver, 2.8 oz.; lead, 1 per cent.

Further along the main crosscut another tunnel, driven 60 feet north-westerly along a seam of calcite, is in country-rock. Several short tunnels and a 26-foot raise off the main crosscut in the ore-zone showing strong mineralization, a grab sample from several hundred tons of material stored in these places giving: Gold, 0.14 oz.; silver, 36.8 oz; lead, 15.5 per cent.

On the first south-easterly drift above mentioned, which follows the foot-wall of the ore-body, a winze was sunk 110 feet, at which point an offset was made to connect with a raise 260 feet up from No. 3 tunnel.

The vertical depth between No.2 and No. 3 tunnels is 350 feet, and three intermediate levels have been turned off from the big winze and raise, named the 150 foot, 250 foot, and 350 foot levels, which means that they are respectively that distance vertically below No. 1 tunnel. As for reasons stated above, all the workings below No.2 tunnel were inaccessible, the information relating to them has been taken from the old company's maps and records, which show that the ore body was encountered and developed on all three intermediate levels, with good results as to width, length, and values.

No. 3 tunnel, 450 feet vertically below No.1 tunnel, is a crosscut about 635 feet long (by scale), which apparently was discontinued a short distance from the expected intersection with the vein.

Tangier: This group consists of the tangier (Crown-granted). *Tiger*, *SilverTip*, and *Black Bear* claims, which are located along the bank of the creek immediately below and south of the *Waverly* group, at an elevation of 4,800 feet (collar of shaft). Outcropping along the creek-bed there is a well-defined fissure-vein with a similar strike and dip to the *Waverly* vein, also conforming to the

bedding of the country-rock, which can be traced by open-cuts and stripping for over 1,000 feet along the surface. This vein, which varies in width from 1 1/2 to 5 feet, contains in places small bunches and stringers of galena and zinc-blende, with streaks of grey-copper. The gangue is quartz, calcite, and limestone. The shaft was sunk on an ore-shoot lying on the foot-wall side of the vein at some little distance from it. The vein itself does not seem to have been reached by the underground workings.

The development on the *Tangier* consists of 110 feet of double-compartment shaft, 829 feet of tunnelling, and a 100-foot winze. The shaft is situated on the *Taitgicr* claim a short distance southeasterly from and a little above the creek. The ore developed in the workings is of the replacement type, probably connected with the above-described vein.

The ore piled on the dump, amounting to several hundred tons, consists of galena, zinc blende, pyrite, with small amounts of grey-copper in a gauge of quartz, calcite and limestone. A grab sample from this large pile of ore gave: Gold, 0.08 oz.; silver, 16 oz.; lead, 8.5 per cent, zinc, 5 per cent. A picked specimen of pyrite and quartz from the same pile gave: Gold, 5.6 oz.; silver, 8.2 oz.

The *Tangier* ore differs from that of the *Waverly*, in that there is generally less evidence of oxidation, and the *Tangier* ore contains appreciable gold values in association with pyrite. There is a separate pile (roughly estimated at 200 tons) near the shaft-dump of black decomposed ore which apparently came from the winze below the 100 foot level. A grab sample of this material gave: Gold, 0.24 oz.; silver, 21.2 oz; lead, 8.5 per cent.; zinc, 15 per cent. The workings are briefly as follows: A vertical double-compartment shaft was sunk for a depth of 100 feet. A small surface tunnel north of the shaft was run in and encountered ore, connection being made with the shaft at the 20-foot level. Records show a small stope was started from this 20-foot level and continued to the surface, the ore being stored in a pile below the shaft dump. At the time of the examination the shaft connection was full of ice and the portal of the adit was caved, so this level could not be inspected.

At the 100 foot level drifts were run north-westerly and southeasterly, encountering two mineralized zones, one on each side of the shaft. The ore-shoot in the southeast drift, having the strongest showing, was prospected by a 100 foot vertical winze. At the time of the examination this was partly filled with water.

A grab sample from a small pile of black decomposed material around the collar or the winze gave: Gold, 0.16 oz.; silver, 35.6 oz.; lead, 11 per cent.; zinc, 3 per cent.

This ore-shoot in the south-east drift on the 100-foot level has an apparent length of 40 feet and a width of from 4 to 6 feet. A sample across 6 feet in the face of the drift gave: Gold, 0.1 oz.; silver, 3.7 oz.; lead, trace; zinc, 1 per cent.

The ore-shoot in the north-westerly drift shows little mineralization, a sample across 4 feet giving: Gold, trace, silver, 0.8 oz. lead, nil, zinc, 2.5 per cent.

In addition to the above workings, several hundred feet of tunnels have been run in barren limestone, in which there are numerous open fissures and calcite-seams.

At present transportation to the Waverly-Tangier property offers a serious problem, as the old wagon road, long disused, is in such a bad state that practically a new road will have to be constructed throughout. The problem of deciding on a route to the property will require very careful consideration.