

NOTES ON EXAMINATION OF UNION MINE, BACK CREEKHISTORY:

The workings at the Union Mine were undertaken about the year 1894 by the Union Gold Mining Company. Preliminary work consisted of surface trenching and the sinking of prospecting shafts. A main shaft was sunk to a depth of 88 feet and levels opened out at 30 feet, 63 feet and 80 feet respectively. Cross-cutting and driving to a limited extent on several series of quartz veinlets was then commenced and, subsequently, a small battery was erected. Apparently the content of the gold shoots proved to be unremunerative, since the mine closed shortly afterwards.

In 1936 assistance under the "Aid to Mining Act, 1927" was granted to T.E. Stonehouse, who held a Prospecting Licence over the area, for the purpose of enlarging the old main shaft and sinking to a further depth of 92 feet. The former object was carried out but no sinking was attempted. At this stage an examination was made, by the writer, of the old workings at the 80 feet level.

ECONOMIC GEOLOGY:

The rocks consist of a series of Lower Palaeozoic, light coloured sandstones in faulted relation with minor occurrences of dark slates. Much faulting, and possibly folding occurs throughout the rocks in the workings, and this obscures the structural details. Three major, and several minor zones, each consisting of sandstones traversed by a series of parallel quartz veinlets, occur at intervals. The zone boundaries are ill defined and are separated from each other by sandstones in which a few irregular veins are also present.

(1) Workings at 80 feet Level:

From the shaft an east-north-easterly drive (No.1) extends for a distance of 71 feet along a minor zone, showing two quartz veinlets over portion of the length.

At 4 feet in No.1 Drive a shorter drive (No.2) extends south-easterly for 20 feet to follow another veinlet, which dips to the north-east at 65°.

At 9 feet from the shaft in No.1 Drive a cross-cut deviates in a north-north-westerly direction for a distance of 70 feet, and short drives Nos. 3, 4 and 5) from the cross-cut occur at 6 feet, 24 feet and 39 feet respectively.

In Nos. 4 and 5 drives major zones containing east-north-easterly trending veinlets, with steep dips to the north-west, occur over widths of approximately 4 feet in both places.

On the east side at commencement of cross-cut, and on north side of No.3 Drive at its junction with the cross-cut, quartz veins and bunches of quartz occur in an irregular manner along a north west-south east trending major zone over a width of 3 feet. To the south-east in No. 1 Drive this zone narrows and only one small vein appears to be present.

SAMPLING:

To test the economic value of the vein zone samples were taken from the following exposures:-

No.1 Sample: In western part of No.5 Drive, across a zone containing 4 feet of sandstone and quartz veinlets.

No.2 Sample: Immediately on hanging wall side of No.1 Sample zone, in cross-cut, over a width of 4 feet of sandstone.

No.3 Sample: In western end of No.4 Drive, across 3 feet width of veinlets (on north side), and hanging wall sandstone.

No.4 Sample: In western end of No.4 Drive, across 3 feet width of veinlets and sandstone, on south side.

No.5 Sample: Commencement of cross-cut, on east side; taken across 3 feet of quartz veins and sandstone.

No.6 Sample: North side of No.3 Drive at its junction with cross-cut; taken across 3 feet of quartz vein and sandstone.

The above samples were assayed by the Government Chemist and Assayer who reported nil results for gold and silver in each case.

CONCLUSIONS:

Workings at the 80 feet level in Union Mine, Back Creek, reveal several poorly defined zones represented by quartz veinlets in sandstone.

In six samples taken from the three larger zones and adjacent sandstones, gold was found to be absent. There is no evidence to show that the vein systems will combine to form defined quartz reefs and in the absence of gold no importance can be attached to them. Further development is therefore useless and cannot be recommended.

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