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No. 9.

By H. Sargent 1939

White Pine Group

This property is situated near Bickley Bay westerly from Shoal Bay on East Thurlow Island, in the Vancouver Mining Division. The Union Steamships Company maintains a regular service to Shoal Bay where the local post office is named Thurlow. The property consists of the Crown-granted claims White Pine, Lot 234, and Electric, Lot 317; the claims Pay Day, Pay Day No. 1 and Pay Day No. 2 recorded in August 1939, adjoining the White Pine, and farther to the west on the shore of Bickley Bay the claim Bay Shore recorded in March 1940. The registered owner of all minerals precious and base save coal and petroleum and natural gas in or under the Crown-granted claims is John Herbert Hemsworth of Vancouver. The claims held by location are recorded in the names of I. M. Campbell, J. M. Campbell and Seymour Campbell of Shoal Bay. It is understood that agreements cover transfer of the claims to the Bickley Bay Mining Company Limited, N. P. L. The Crown-grants were issued in 1930 and 1931 after being leased by Seymour Campbell from the Crown for about two years. It is reported that two shafts and an adit-crosscut on the Crown-granted claims date from the early days of the property more than 40 years ago.

The Shoal Bay Mining Syndicate and later the Bickley Bay Mining Company Limited, N. P. L., have been responsible for cleaning out and extending some of the old workings, and for driving two short adits on ground sloping toward Bickley Bay near the White Pine claim. Nineteen claims located in 1935, 1936 and 1937 have been allowed to lapse. References to the property appear in Bulletin No. 1, 1932, published by the Department of Mines, British Columbia, and in the Annual Report, Minister of Mines, British Columbia, 1934.

The workings, consisting of open cuts, strippings, test pits, two shafts and three adits, are found in several parts of a zone which trends north of west, ~~for half a mile~~ from open-cuts easterly from the shaft on the Electric claim, past No. 1 adit and No. 2 shaft on the White Pine claim to No. 2 and No. 3 adits situated on the slope to Bickley Bay, westerly or north-westerly from the White Pine claim, ^{*the distance is about half a mile.*} This zone crosses the rounded top of a ridge which rises steeply from Bickley Bay and less steeply from a valley at the head of Shoal Bay. Bed-rock is exposed on the rounded tops and on the steepest slopes, but generally the surface consists of overburden with a rather heavy cover of conifers or brush. Timber was logged some years ago from the valley at the head of Shoal Bay and from the lower slopes of the ridge.

The rock exposures consist principally of rather coarse grained quartz-diorite rich in hornblende and biotite. There are also granitic dykes which range from more acid phases to diorite and dykes of green andesite. Vein-mineralization consists of quartz with pyrite and locally minor quantities of other sulphides. The vein-mineralization, ranging from a few inches to 20 feet wide, is developed principally along fractures which strike from easterly to north-easterly and dip from 55 to 80 degrees northward or north-westward. Narrow veins branch from the wider quartz masses. Vein mineralization also occurs in fractures which strike northerly and dip steeply both eastward and westward. Some of the vein-filled fractures cut andesite dykes and in some exposures of this type the mineralization consists largely of pyrite. Many of the exposures consist almost entirely of quartz, elsewhere lenses of massive sulphides usually less than a foot in width occur in the quartz, and in some sections 4 or 5 per cent of the vein material consists of sulphides in small aggregates disseminated through quartz up to 5 feet wide. Faults which strike northerly to north-westerly and dip steeply cut the vein-mineralization at several points.

In all cases observed the segment east of a fault was displaced southerly relative to the segment west of the fault. Bodies of vein-mineralization are not exposed throughout their lengths by surface or underground workings. This fact and the displacement by numerous faults make it impossible to state the exact lengths of the bodies. In short distances along the strike the widths diminish from 10 or 12 feet to a few inches. The principal workings expose several lenticular bodies reaching maximum widths from 8 to 20 feet and having indicated lengths which range up to 250 feet. Assays quoted in the following more detailed descriptions range from 0.06 to 0.90 ounces of gold per ton, for material rich in sulphides, and samples of quartz low in sulphides assayed nil in gold. The associations of the gold have not been determined.

The workings are reached from Shoal Bay by following an old logging road westerly for a little less than a mile, and beyond that, a rather rough trail. No. 1 shaft, an old working at approximately 610 feet elevation, on the Electric claim, is about $1\frac{1}{2}$ miles from Shoal Bay. The water level stood about 20 feet below the collar of the shaft when it was examined. Quartz with some pyrite was exposed extending for 10 feet from the foot-wall toward the hanging-wall.

A surface cut at 525 feet elevation, 125 feet easterly from the shaft, exposed a quartz vein cut by a fault which strikes northerly and dips steeply westward. In 100 feet south-easterly from this cut, quartz is exposed in 4 cuts. The quartz narrows and is stepped to the south successively by northerly striking faults. The farthest exposure is a few inches wide. About 65 feet westerly from No. 1 shaft a shallow cut incompletely exposes a vein on the projection of the strike of the vein at the shaft.

At a small creek which flows northerly, a hundred yards westerly from No. 1 shaft, a good cabin 16 by 32 feet has been built of cedar shakes. About 250 feet westerly from the cabin the trail crosses the boundary from the Electric to the White Pine claim. Some 400 feet farther a stripping, which extends for 25 yards westerly, exposes fracturing containing quartz in an andesite dyke.

No. 2 shaft at 735 feet elevation is about 1500 feet westerly from No. 1 shaft. A plan accompanying this report shows No. 2 shaft, surface workings near the shaft, and No. 1 adit. At the collar of the shaft quartz from 4 to 8 feet wide dips 55 degrees northerly. About 20 feet down the shaft the vein is cut by a fault of low dip to the north, below which the vein is displaced to the north.

The inclination of the shaft is reduced below the fault but steepens again lower down. It is said to be a little more than 70 feet deep. On the surface, south-easterly from the shaft, quartz from 2 to 4 feet wide is exposed. At the western end it terminates at a fault which strikes northerly and dips 75 degrees eastward. The northerly projection of the fault would pass a short distance east of the shaft. The horizontal displacement at the surface is about 40 feet. Quartz exposed 20 feet westerly from the shaft may be a continuation of the vein on which the shaft is sunk. No. 1 adit is a crosscut driven 158 feet north 18 degrees west from a point 115 feet south-easterly from the shaft. The adit is in the segment west of the fault indicated near the shaft. Between 85 and 95 feet from the portal the ground has been cut out west of the adit and a winze has been sunk on the vein. The winze was full of water when the property was examined. The western wall of the adit was inaccessible. The vein exposed on the eastern wall measures about 5 feet horizontally from the foot-wall to the hanging-wall and dips about 50 degrees northward. It consists of partly replaced andesite and of quartz banded with sulphides. The crosscut continues past the winze for 65 feet in quartz-diorite with andesite dykes.

About 2 tons of quartz well mineralized with pyrite, piled on the dump outside the adit portal, is reported to have been taken from the winze in 1934, when it was cleaned out and widened to a depth of 7 or 8 feet. Quartz with pyrite selected from this material assayed: Gold, 0.30 oz. per ton; silver, 0.1 oz. per ton; while selected quartz containing unidentified dark sulphides assayed: Gold, 0.90 oz. per ton; silver, 0.3 oz. per ton.

About 100 feet westerly from No. 2 shaft quartz curving to the north-west is exposed for about 20 feet on the surface. It is very irregular in outline, stopping at joints in the quartz-diorite, and appears to replace andesite dyke-rock. This material contains segregations of sulphides, its maximum width is 4 feet. It does not appear to be the continuation of the vein at the shaft. A sample of selected material well mineralized with sulphides assayed: Gold, nil; silver, nil. From a point 50 feet farther north-west a stripping extends for 55 feet northerly, following an andesite dyke from 2 to 4 feet wide. In the dyke irregular fracturing dipping 75 degrees westward contains quartz and segregations of pyrite.

About 600 feet north of west from No. 1 adit a cut exposed quartz from 18 to 30 inches wide locally containing massive sulphides. This mineralization occurs along a fracture which strikes northerly and dips steeply eastward. Where an easterly striking fracture crosses the northerly striking one there is a much greater width of quartz. Some of the quartz appears to replace andesite irregularly developed along the fracturing.

No. 2 and No. 3 adits and surface cuts near them are shown on a plan accompanying this report. No. 2 adit is about 1500 feet north of west from No. 1 adit. At No. 2 adit and in the cuts lying north of east from it quartz is exposed from 4 or 5 feet to 20 feet wide. Most of this material contains little evidence of sulphide mineralization, but in the first 20 feet of the adit quartz from 4 to 5 feet wide contains disseminated sulphides and at the floor massive pyrite is exposed for a width of 10 inches and is reported to be considerably wider. About 20 feet from the portal the vein is cut by a fault which strikes west of north and dips about vertically. The quartz in the eastern segment is displaced about 8 feet to the south. East of the fault the width increases to 10 feet. Although rusty this quartz contains little sulphide mineralization.

A sample across 52 inches at the face assayed: Gold, nil; silver, nil. Two samples of quartz with pyrite were selected from a small pile of heavily mineralized material at the portal, the one assayed 0.30 and the other 0.06 oz. gold per ton. As indicated on the plan the cuts on the surface expose quartz up to 20 feet wide. Some narrow veins branch to the north-east from the main mass. One such branch, which leaves the main mass near the adit portal, is indicated in cuts on the surface, about 70 and 150 feet from the portal. A sample taken from the cut 70 feet from the portal, across 20 inches of quartz with some sulphides, assayed nil in gold and in silver.

Between No. 2 and No. 3 adits surface cuts expose fracturing and some quartz in an andesite dyke. No. 3 adit follows an irregular course, in part following shearing along which quartz with sulphides are developed in narrow widths. Near the inner end the working cut a narrow fracture striking north-easterly along which there is a little vein-mineralization. The wall-rock is partly quartz-diorite and partly a finer grained diorite dyke.