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TERRITORY OF ALASKA

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Commissioner of Mines

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PRELIMINARY REPORT OF LUCKY BOY GROUP OF CLAIMS, DORA BAY, CHOLMONDELEY SOUND PRINCE OF WALES ISLAND, ALASKA.

May 11, 1939

By

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Territory of Alaska
DEPARTMENT OF MINES

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May 11, 1939

Location and Accessibility:

The Lucky Boy group of lode claims is located at the south end of Dora Lake, one and three-fourth miles from salt water at a point at the head of Dora Bay. The latter is a small bay three miles in length on the south side of Cholmondeley Sound on the east side of Prince of Wales Island. The claim group is reached via trail from the head of Dora Bay, one-fourth mile in length to Dora Lake, and thence by boat to the south end or head. Another route is via trail from the head of the North Arm of Moira Sound via the north shore of Mineral Lake. (Note Plate No. 1). The elevations via trail to the claim group are less than 100 feet.

Owners:

This group of eight claims; namely, Lucky Boy Nos. 1 to 8, inclusive, is held by S. B. Van Zandt, H. Smith, W. H. Roessel and the Ryus Estate of Ketchikan, Alaska.

History:

The discoverer of the showings on this group of claims is not known. The first known written account of this doscovery is given in U. S. G. S. Professional Paper No. 1, "Preliminary Report on the Ketchikan Mining District, Alaska" by A. H. Brooks, p. 79. It was then known as the Frisco claim. Brooks merely refers to this discovery as a mineralized zone 2 feet wide and carrying zinc blende, iron and copper pyrite, and galena. The date of discovery of the present West Lake vein or Frisco group is given in U. S. G. S. Bulletin 347, "Ketchikan and Wrangell Mining Districts" by F. E. and C. W. Wright, pp. 171-172, as 1899. It was relocated in 1903 as the Oregon and Idaho prospects, of which this report gives a short description. The Lady of the Lake Vein was apparently discovered prior to this latter report, as it is described under the Lady of the Lake claims. Later the two claim groups were located as the Complex group and are referred to as the Complex prospect in U. S. G. S. Bulletin 800, "Geology and Mineral Deposits of Southeastern Alaska" by A. F. Buddington and T. Chapin, 1929, p. 368. The property was prospected and remained open for several years until staked by the present owners in 1937.

All the underground and surface workings were accomplished prior to the last staking, as noted on date of examination. An attempt to mine and mill the ore of the West Lake vein had been made several years ago as the mill is of an old type and obsolete at the present time. The history of this activity is not known.

Geology and Showings:

For the geology and structure of Prince of Wales Island, the above-mentioned reports of the U. S. G. S. are again referred to. The formation noted on this group of claims consists of a folded greenstone schist. This schist appears megascopically to originally have been a volcanic extrusive rock or tuff. This formation has been covered with limestone which rested unconformably on the former. Subsequent erosion has removed the limestone, with the exception of occasional remnants, the latter existing as filled fissures, brecciated zones, and hard crystalline masses. The schistosity of the greenstone schists strikes N. 10° to 20° W. and the dip varies due to folding from 50° to 70° SW.

Three known veins exist on the property and named in order of economic importance are the West Lake vein, located on the Lucky Boy No. 4 claim, the Lady of the Lake and the Minnetonka veins on the Lucky Boy No. 1 claim.

The West Lake vein, originally known as the Oregon and Idaho prospects of the Frisco group, is exposed by surface cuts for a distance of 400 feet. This vein cuts the schistosity of the schists and strikes N. 20° E. and has an average dip of 50° W. The mineralized section of this vein, which consists of a limestone filled fissure, varies from a few inches to five feet, with the entire width including barren limestone varying up to eight feet. The vein is irregular as to size and mineral content, and in places has been subject to a slight post mineral movement.

The Lady of the Lake vein is a sheared mineralized zone in greenstone schist with small quartz and calcite veinlets inclosed and conformable to the strike and dip of the schistosity. This zone is exposed by cuts for nearly 200 feet, and one large cut exposes the outcrop on the dip for 30 feet in extent. The actual width could not be accurately determined, but appears to vary between 10 to 12 feet. This zone contains an abundance of lime minerals, but lacks the blocks of limestone that are found in the West Lake vein.

The Minnetonka vein lies 150 feet directly north of the Lady of the Lake vein and consists of an irregular banded vein inclosed in a shear zone developed by more intense folding. This vein varies in width from a few inches to four feet in the crests of the open folds. The vein, from its location and general strike, shows a greater strike to the northwest than the Lake of the Lake vein, with the dip variable to the southwest. This vein contains the least amount of mineralization of the three and is exposed by

cuts only for 200 feet. Small quartz cross veins were observed intersecting the main vein, and are filled tension fractures caused by the folding and movement.

Development:

The veins have been developed by two adit tunnels, one shaft, and one short winze. Adit No. 1 (note Plate No. 2) has a length of 186 feet, and cuts the West Lake vein at a vertical distance of 75 feet below its outcrop. A drift 65 feet north and 46 feet south exposes the vein for a distance of 111 feet. The vein averages from 3 to 5 feet in width, and has been stoped a few feet up in both drifts near the latter's ends. The vein is narrowerer than on the surface, contains a lesser amount of limestone and mineralization, and has a more brecciated nature. At the end of the crosscut adit a short winze has been sunk, which is now filled. A channel sample was taken at the face of each drift.

Adit tunnel No. 2 was driven at an elevation of 220 feet and 85 feet below the Lady of the Lake vein, directly below the large outcrop. This crosscut tunnel has a length of 66 feet and cuts a vein that ranges from 4 to 6 feet in width at a point 47 feet from the portal. There is some doubt as to whether or not this crosscut has cut the entire vein zone. A channel sample was taken across the face of the vein in a short drift off the crosscut.

The Minnetonka vein is exposed by opencuts and due to the poor exposures in the old cuts, no samples were taken.

One shaft was sunk on the West Lake vein as shown on Plate No. 3, but is now filled.

Mineralization:

The heaviest mineralization is found in the surface cuts of the West Lake vein. Here the mineralization is a replacement of the limestone and in spots is massive, consisting mainly of sphalerite. The Lady of the Lake vein contains a greater pyrite mineralization with some galena, chalcopyrite and sphalerite. The Minnetonka vein contained mostly pyrite with small amounts of galena, chalcopyrite and sphalerite. Associated with these metals, low values of gold and silver were noted by assay. Traces of cadmium were reported found associated with the sphalerite in the West Lake vein.

The gangue minerals consist mainly of quartz, calcite, various altered lime minerals and considerable limonite, hematite and magnetite - the latter two mainly in the West Lake vein. Pieces of altered mineralized greenstone schist is common in the veins.

Due to the abundance of oxides, lime silicates and minerals, and the general character of the type of ore, this deposit is classified as low temperature and of shallow depth.

Sampling and Assays:

Plates Nos. 2 and 3 show the locations, widths and results of all samples taken. They also contain the samples taken by H. G. Wilcox in June, 1937. These samples do not represent a detailed sampling of these showings, but they do give representative results which would indicate the results of such a sampling. The gold and silver content is low. Both lead and copper values are low. High zinc results were obtained on the West Lake vein, in sections where considerable sphalerite was noted, however, this is not characteristic of the vein. Thus a commercial grade of ore would be obtained only by hand sorting or by concentration.

Timber and Water Power:

Timber, mainly spruce and hemlock, is abundant on the property and the surrounding section.

Small hydro-electric power could be developed within a few miles. However, the lakes shown on Plate No. 1 are of too low an elevation to develop power. The power used in the old mill below the West Lake vein consisted of a steam boiler and engine. A rod mill, tables, and crusher are still intact in the building, but all machinery is obsolete, except possibly the crusher.