(9.2, 16.8)

135°02'W
56°57'N

116

PRELIMINARY REPORT OF THE LUCKY CHANCE MINE,
BARANOF ISLAND, SITKA PRECINCT,
June 28, 1940

12K 116-6

Location and Accessibility:

The group of Lucky Chance claims, Nos. 1 to 4, inclusive, are situated near the top of the drainage divide between Silver and Deep Bays on the west coast of Baranof Island at elevations ranging from 2500 to 3000 feet. The claims extend in a northwest-southeast direction along a fault fissure of considerable length.

On Lucky Chance claim No. 1 are located the workings of the old Lucky Chance mine. These are located 3½ miles in a straight line southeast of the head of Silver Bay. A good trail, 4 miles in length, begins in the southeast corner of Silver Bay and leads over the divide to the property. Another route is via the old road up Lucky Chance Creek from the southwest end of Silver Bay and via the old mill. This distance is 7½ miles and the road bed is in many places grown over with brush and alders.

Owner:

Steve Tus of Sitka, Alaska restaked this property and is at the present time sole owner.

History:

The early history of the discovery of the Lucky Chance mine is not known. The discovery was apparently made during the early mining activities in the Silver Bay region between the years of 1871 and 1880.

The first known record is found in the "Eleventh Census of the U. S.," Chapter XV, page 229. This gives an account of the Lake Mountain Mining Company as having been formed at Madison, Wisconsin in 1886 for the purpose of developing the Lucky Chance mine. A 5-stamp mill, powered by a water wheel, was built the following year. Sixty tons of ore was reported crushed and milled. Development by this company consisted of 250 feet of tunnel and a 90-foot raise to the surface. The length of ore in the tunnel was given as 90 feet.

Following the activities of the above company, the mine was worked intermittently, consisting mainly of milling and mining the ore above the No. 2 tunnel level. The total tonnage removed from the stope amounted to 1200 tons. How much of this tonnage was milled is not known, and there are conflicting reports as to the total production. The recent development has been confined to No. 2 tunnel by the owner, mainly as prospecting and the annual assessment work.

Geology and Structure:

The formations comprising the area in the vicinity of the Lucky Chance mine have been classified as interbedded slate and graywacke of Mesozoic age by the U. S. Geological Survey in bulletin 504, "The Sitka Mining District" by A. Knopf.

The graywacke occurs as massive hard thick beds and contains thin schistose beds of slate. Thin beds of a fine conglomerate have been reported, but none was noticed on the property. The general strike of the formations are northwest-southeast. The dip is steep to the southwest. In the vicinity of the Lucky Chance showings the formations strike N. 65° W. and the dip is nearly vertical. Dikes and extrusive rocks are not in evidence in the immediate vicinity of the showings, however, granitic rocks were reported to the south and aplite dikes are known in the graywacke slate formation within the district.*

The most pronounced structural feature regarding the Lucky Chance mine is the strong continuous fault fissure. The general strike of this fissure is N. 45° W. This cuts the general strike of the sediments at an angle which varies from 15 to 20 degrees. The general dip of the fissure ranges from 80° to 85° NE. This dip also cuts the general dip of the sediments at a low angle. There are other fault fissures more or less similar and parallel to the Lucky Chance fissure in the area. These are all more or less mineralized and contain some quartz. Some have been traced for distances of two miles and possibly extend greater distances.

Near the face of No. 2 tunnel (Note plan) a small transverse fissure intersects the main fissure. This has a strike of N. 28° W. and a dip of 50° to the northeast. Since this fissure does not cut across or displace the main fissure, it is believed to have been earlier and may represent an earlier system of fault or tension fault developed by the main fissure.

Numerous small quartz filled fractures occur as cross stringers on the hanging wall of the main fissure, and they are most numerous in the vicinity of the glory hole. The greater portion of these stringers are at nearly right angles to the main vein and vary from seams to 4 inches in width. They occur at intervals of a few inches up to two feet. These quartz stringers are believed to be tension fractures formed by movement and pressure along the hang wall. They may represent a schisted zone faulted by the main vein. The ore shoot mined, as shown on plan, was the section containing the greater amount of these cross stringers.

*Knopf, A., U. S. Geol. Survey Bull. 504, "The Sitka Mining District, Alaska", p. 26 .

Free gold can be observed in the quartz of the stringers and assays show they contain the higher values. Two zones of these stringers occur in No. 2 tunnel. The first zone occurs from the point where the tunnel intersects the vein for a distance of 90 feet. Another small bunch occurs at a point 50 feet past No. 1 Raise. This latter is of narrow width and does not contain sufficient values to make ore. Both areas occur on the hanging wall only, and the stringers have their greatest width at the intersections with the main vein.

The amount of movement and displacement along the fault fissure cannot under present development be determined, however, in places considerable gouge occurs along the hanging wall. The ore zone, as it occurs on the surface and in the No. 2 tunnel level, shows a pitch slightly off vertical to the north. A probable continuation of the same grade of ore as found in the stope may be found below the tunnel level.

The main fault fissure can be readily traced on the surface over the four claim lengths. Numerous quartz outcroppings were reported along the fissure to the southeast, some containing values. These were covered with snow on the date of visit. Further surface work on the outcroppings is recommended prior to further development in the tunnel.

Development:

The total underground development consists of two tunnels, a short shaft, two raises and an open stope. The surface workings consist of various open-cuts distributed along the vein, the most of which are partly filled and two are shown on the accompanying plan. The shaft is located 20 feet west of the glory hole and connects with No. 1 tunnel. No. 1 tunnel is a crosscut tunnel 45 feet in length which ends in the glory hole. This was used to eliminate waste from the glory hole during the early mining activities.

No. 2 tunnel has a length of 468 feet and is 80 feet vertically below the surface at the glory hole. This tunnel was started as a diagonal crosscut which encountered the vein at a point 142 feet from the portal. Thence it follows the vein. At a point 278 feet from the portal a raise was driven following up on the vein a distance of 25 feet. A narrow width of quartz and a wide sheared hanging wall show in the raise. At the intersection of the footwall vein at a point 412 feet from the portal, No. 2 raise was driven up 15 feet. In this raise the two veins join and form a banded quartz vein 3 to 4 feet in width. Low values, as shown by assays, were encountered. Most of the recent development has consisted of extending No. 2 tunnel to the southeast by hand mining methods. In the face the vein is strong and contains a few inches of banded quartz.

Mineralization:

A small amount of sulphides and oxidized products were noted in the vein and in the schisted walls of the fault fissure in all the various localities where it was examined. The most concentrated locality for the mineralization is the brecciated zone on the hanging wall, where the cross veins intersect the main fissure.

The gangue minerals consist of a milky white quartz, banded in the main vein, with calcite, chlorite, limonite and various altered pieces of brecciated graywacke and slate. The metallic minerals contained both in the wall rock and the quartz are in order of abundance pyrite, some of which has been sheared, arsenopyrite and free gold containing a small amount of silver. Free gold was noted in the weathered portions of the ore and in the quartz of the small quartz cross veins. Gold also is apparently associated both with the pyrite and arsenopyrite.

Assays:

As noted by the few samples taken, and those taken by others, the general tenor of the ore is low. Various samples taken from the dump and the ore piles at the portal of No. 2 tunnel by the owner were reported as ranging from 70 cents to $5.25 per ton in gold and silver. Samples taken by Champaign in 1935 (Note assays on plan) along the hanging wall of the glory hole on the No. 2 tunnel level show values ranging from 0.17 to 1.72 ounces per ton in gold. Other samples from other places along the drift and raises showing the greater width of quartz were generally low.

Channel sampling of the bottom of the drift in No. 2 tunnel from the point where the tunnel intersects the vein and thence for a distance of 90 feet southeast, covering the area below the glory hole, is recommended. This would give the average tenor of the ore below the level. To extract this ore below the No. 2 tunnel level would necessitate the sinking of a winze.

Further sampling of surface cuts and opening the quartz outcrops along the fault fissure would be the determining factor for further development work.

Equipment:

Nearly all the old equipment on the property - the 10 - 1050-lb. stamps, crusher, pelton wheel, cables, pipes, saw mill, etc., are in a state beyond repair. The buildings at the mill are down. One cabin below the Lucky Chance workings is kept in a state of repair, and will accomodate two men.

Timber and Water Power:

Spruce and hemlock timber is abundant in the vicinity.

Water power sites are Green Lake and Bear Lake, shown on sketch map on plan, which could be developed into hydroelectric power sites.