

(20.1, 10.6)

12° 29'  
55° 34' 6"

PRELIMINARY REPORT OF SHEPARD GROUP OF CLAIMS, KX 119-53  
KASAAN PENINSULA, PRINCE OF WALES ISLAND, ALASKA  
June 17, 1938

Location and Accessibility:

The Shepard group of three claims and two millsites is located 6 miles northwest of Kasaan on Kasaan Peninsula. The millsites are located on the beach and the main workings are 1800 feet inland at an elevation of 300 feet. An aerial tramway leads from the main showing to the old dock on the beach, making a completed step to salt water transportation.

Owner:

This group of claims is held by Eric Lindeman of Ketchikan, Alaska.

History:

The history of this mine is not known. Reports were to the effect that the prospect was discovered by two prospectors named Brown and Metzdorf, whence the name originated. The first known report of the prospect is given in U. S. G. S. Bull. 347, "Ketchikan and Wrangell Mining Districts, Alaska" by F. C. & C. W. Wright, pp. 120-121. Since this report was published the prospect became known as the Shepard Mine and in recent years some development work was done and a small amount of copper ore was shipped. The mine was restaked in 1936 by Lindeman, who last year shipped 22 tons of ore sorted from the dump. This ore gave a return of .09 oz. gold, 1.75 oz. silver and 14.28 per cent copper per ton. This fall more ore is to be sorted and shipped and the present caved tunnel cleaned out.

Geology and Showings:

The formations noted in the immediate vicinity of the workings consist of an assemblage of crystalline limestone, quartzite and greenstone tuffs. In the limestone a small porphyry dike was noted striking N. 70° W. and dipping 65° N. These formations have been faulted and brought into close proximity by movement on the fault. The first series of fault openings have been filled with a garnet rock and inclosed in the garnet rock is found the copper ore. Due to the inaccessibility of part of the workings, the filled condition of the old cuts, and the overburden, the fault displacement could not be determined. Later faulting has cut off the former fault vein and the east extension has not been found. More development is necessary before any statement, other than that a complex fault problem exists, can be made.

The east surface showing consists of considerable stripping in the vicinity of a 35-foot shaft. Here small scattered bunches of chalcopyrite occur in the schisted greenstone tuffs. This shaft was apparently sunk on these bunch showings and later connected up with the tunnel workings.

At a point 55 feet west of the shaft a glory hole 20 feet long, 7 feet wide, and 30 feet deep has been sunk on the garnet rock band. The footwall of this band is crystalline limestone and the hanging wall is the 4-foot porphyry dike. Sample 430 was taken across 30 inches of this band on the south face of the glory hole, 20 feet down. This gave results of 0.03 oz. gold, 0.50 oz. silver, and 5.75 per cent copper.

The underground workings consist of a tunnel approximately 250 feet in length that was caved at a point 100 feet in from the portal, and connects with the bottom of the glory hole and a crosscut leads to the bottom of the shaft. The workings below the glory hole were accessible through a short raise. The southeast end of the workings expose the garnet band for a distance of 30 feet. The south end has been cut off by a fault that strikes N. 15° W. and dips 70° W. The southern extension of this band has not been found. Sample 429 was taken across 24 inches of this garnet band in the face of the drift and returns of 0.06 oz. gold, 0.60 oz. silver and 4.6 per cent copper were received.

#### Mineralization:

This copper ore occurs as massive bunches and disseminations of chalcopyrite with pyrite and molybdenite in the garnet rock band. A few small disseminations were noted in the greenstone tuffs; however, these were minor in extent. The associated gangue minerals consist of garnet, calcite, epidote and lime silicates. A few more tons of this ore are in sight below the glory hole and in the drift. The amount of molybdenite associated with the copper ore appears sufficient to save provided sufficient ore is found to operate a concentration plant.

#### Machinery:

Mining has apparently in the past been done by hand methods. The only machinery consists of an aerial tramway 1800 feet in length made up of two 5/8" cables and run by gravity. A cabin, blacksmith shop and dock comprise the buildings.