MR 73-1

INDEX

Golden Horn Mine . . . . . 1 KR 73-30

Golden Ground Prospect . . . . . 5 KR 73-32

Neilson Prospect . . . . . 7 KR 73-34

#7

LODE MINING ACTIVITY, OTTER CREEK, IDITAROD DISTRICT, ALASKA

By Frank M. Holzheimer - 1926

Development and active prospecting for lode in the Iditarod District has been retarded by the interest in placer activity, the isolation of the district, and the lack of surface outcrops. Three properties; the Golden Horn, Golden Ground, and Neilson have been located near Otter Creek. The Golden Horn Mine has shipped ore. The Golden Ground, and Neilson are in the earlier prospect stage of development. The map accompanying U. S. Geological Survey Bulletin 714, Plate IV, shows the locations and the general geology of the district. The transportation problem is a serious factor in mine operation.

GOLDEN HORN MINE 1473.35

Lack of time did not permit a detailed examination of the Golden Horn Mine. It is idle at the present time. Mr. N. L. Wimmler of the U. S. Geological Survey made a detailed report on the property in 1923. Since Mr. Wimmler's visit the property has changed hands, and the main shaft has been extended 35 feet with a reported persistence of ore. The present owners, Mr. Justis Johnson, and Mr. Patty Savage, acquired the property on a lien. It is understood that there is some litigation over the title at the present time.

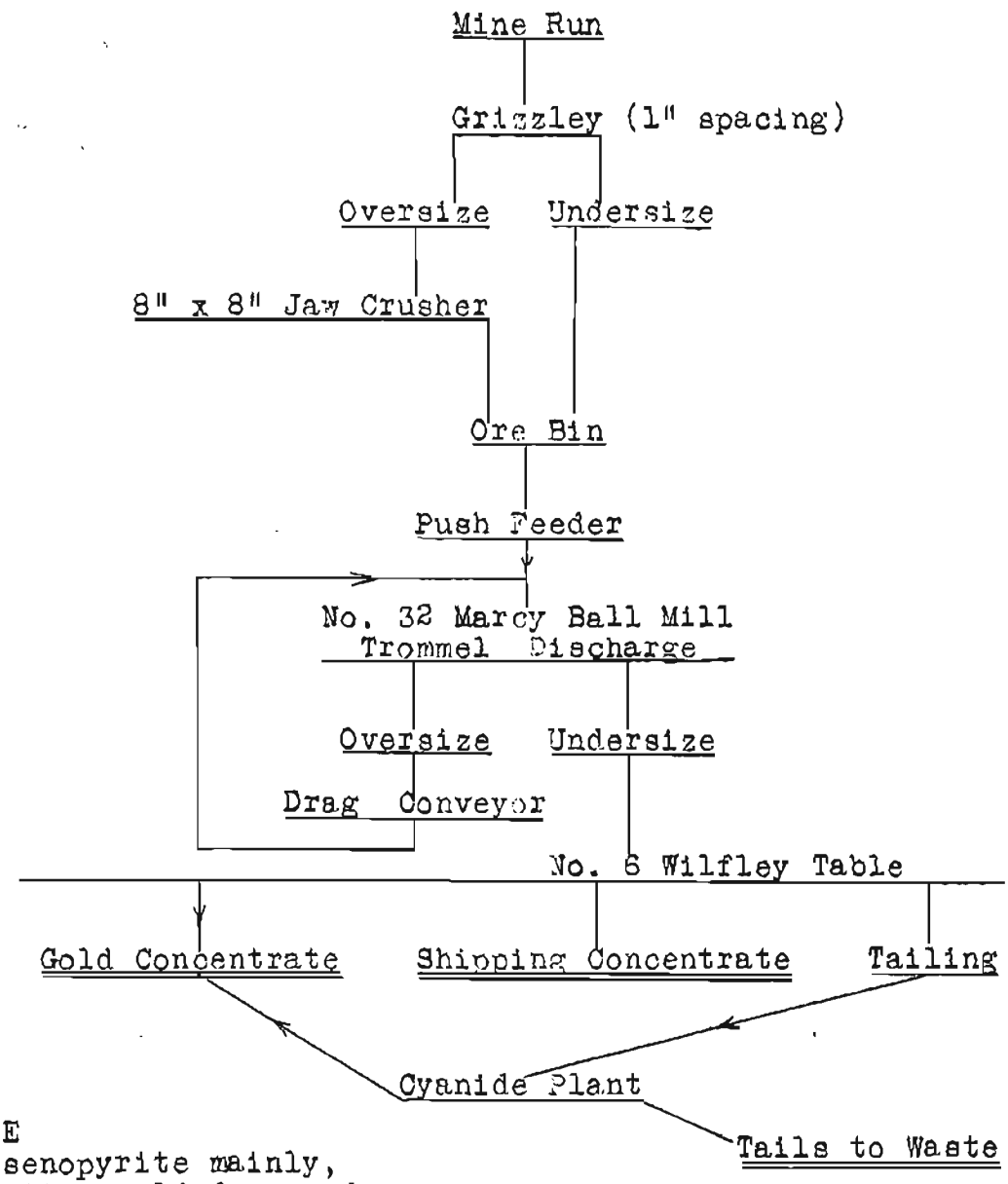
The Golden Horn Mine, with efficient management, should develop into a small high grade mine. The mining experience in the

Iditarod District has been almost entirely confined to placer. The owners of the Golden Horn have had no milling or lode mining experience. The mill has not been operated by the present owners. A new mill is planned after the matter of title has been settled. The present mill equipment is in need of repair and is not adequate to solve the problem of efficient ore concentration. A 6 by 7 inch Dodge crusher with a No. 1 Straub ten-stamp mill were used before plate amalgamation.

Straub mill, Golden Horn Mine.

The accompanying flow-sheet is suggested as a basis of mill construction. The design should allow for any required capacity and eliminate much of the arsenopyrite from the cyanide operation. The details of construction can only properly be obtained from experimentation.

SUGGESTED FLOW-SHEET
GOLDEN HORN MILL
FLAT, ALASKA



ORE
Arsenopyrite mainly, pyrite, gold-free and included. Gangue consists of quartz, small amount of calcite, and country rock (monzonite).

About 150 tons of sorted ore ~~are~~ piled on the surface. This ore is iron-stained and oxidized and has weathered to a finely divided state with larger fragments of quartz. A milling test was requested on the ore but owing to the altered nature the test was impractical. A grab sample, fairly representative, was from the dump. The assay of Mr. Paul Hopkins, Fairbanks, showed: Gold....4.79 oz. per ton. Silver....6.10 oz. per ton.

Mr. Johnson reports that a 22,102 pound shipment of sorted ore was sent to the smelter in July, 1925. The total recovery on this shipment was 371.40 ounces of gold and 23.45 ounces of silver. Deducting freight and smelter charges, the net recovery on the shipment was $4,159.75. During the present season 11 tons ~~were~~ shipped ~~giving~~ a net recovery of $2,718.90. The present freight rate from the mine to Flat is $12.50 per ton, and from Flat to Iditarod $20 per ton. In the event of continuous mine operation the operators may reduce the haulage rate by doing it themselves. The roads are only practical for wagon transportation.

The mine workings and equipment are in need of repair. The workings below the main level are filled with ice and water. The presence of several inches of ice on the walls of the drifts make sampling difficult. The ~~narrow nature~~ of the vein and consequent inclusion of country rock in the mine-run ore renders the ore adaptable to hand-sorting.

GOLDEN GROUND PROSPECT K-13-32

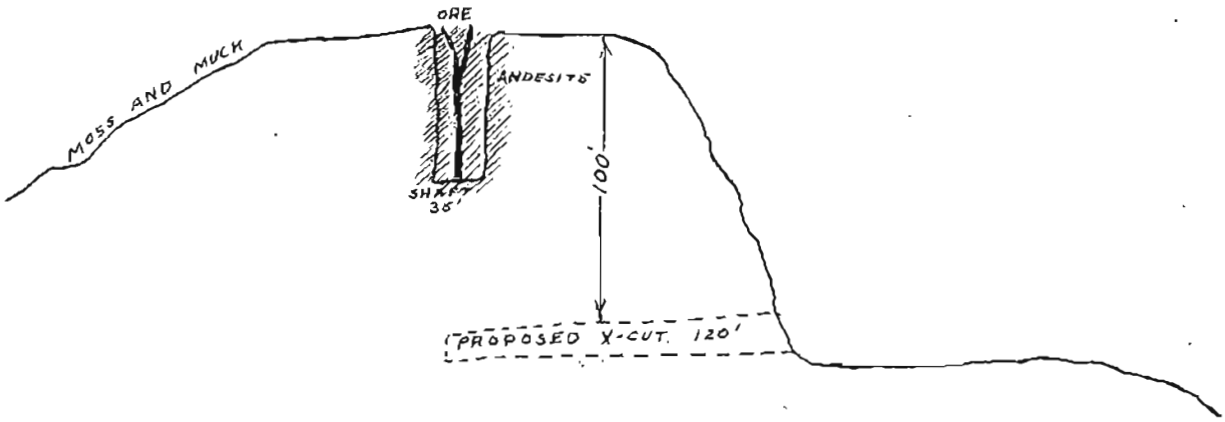
The Golden Ground Prospect is located on the spur between Granite Mountain and Boulder Creek. The prospect is reached by trail from the government road between Flat and Otter. The trail starts 2½ miles from Flat and follows partly along the old Iditarod road to the prospect, a distance of 2½ miles. The old Iditarod road is inacessible to transportation at the present time. The elevation of the prospect is approximately 2500 feet.

The property consists of one claim, held by right of location, staked in the spring of 1922 by Mr. Gus Uotila. Associated with Mr. Uotila are Mr. Patty Savage, and Mr. Tony Lindstrom of Flat, Alaska. The surface showing consists of two quartz stringers from 3 to 4 inches wide. The rock in the immediate vicinity of the claim is a pyroxene andesite. Outcrops of quartz monzonite are found near Otter Creek.

The development work consists of a 35 foot vertical shaft that follows the stringers. At a point 10 feet below the surface the two stringers come together forming one vein 10 inches wide. The strike of the vein is about north-south and the dip nearly vertical. At the time of visit the bottom of the shaft was full of ice and consequently inaccessible. Several inches of ice had formed on the walls of the shaft making sampling impractical. According to Mr. Uotila the vein is persistent to the bottom of the shaft ranging in width from 7

to 10 inches wide the width being irregular. The length of the mineralization, due to lack of surface outcrops, is undetermined. Ore from the dump was heavily oxidized with fragments of amygaloydal quartz. Minerals recognized were arsenopyrite, pyrite, cerrusite, stibnite, and chalcopyrite in part oxidized to malachite. A grab sample from the dump assayed by Mr. Paul Hopkins in Fairbanks showed: Gold....2.02 oz. per ton. Silver....128.60 oz. per ton. The significance of this sample is in occurrence only. There has been some possible concentration through leaching and the ore piled on the dump represented the ore of heaviest mineralization.

The following sketch shows the topography in the immediate vicinity of the prospect. The plan for future development work is to



drive a cross-cut tunnel as indicated, tapping the possible continuation at a depth of 100 feet. It is believed that this is the logical method for exploration and that the showing warrants the development.

Patches of timber are available on both sides of Otter Creek. The owners are considering the possibility of utilizing a ditch for the development of water power.

NEILSON PROSPECT 2X 13-34

The Neilson Prospect was reported on by Mr. Wimmler as the Garnet Group Prospect. There has been no additional development work. The owners were absent. As mineralization was reported across 18 feet of vein filling, three samples were taken and sent to Fairbanks for analysis.

SAMPLE	OZ. PER TON	
	GOLD	SILVER
Neilson Prospect, channel sample 0'-9' from hanging wall.	0.03	0.50
Neilson Prospect, channel sample 9'-18' from hanging wall.	trace	0.50
Neilson Prospect, sample of ore showing most mineralization.	0.10	0.60

The samples were taken from the face of the outcrop.