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REPORT ON MINING AND PROSPECTING ACTIVITIES IN THE KANTISHNA DISTRICT, 1961

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INTRODUCTION

During September 7 to 10, 1961, I visited the Kantishna District, primarily to examine operations of Moneta Porcupine, Ltd. on Quigley Ridge. Other operators in the district had closed their operations for the season before I arrived, and the crew of Moneta Porcupine left on the same day that I returned.

EXPLORATION ON QUIGLEY RIDGE

The exploration by Moneta Porcupine has consisted of running geochemical surveys, digging pits and trenches by hand where geochemical anomalies have indicated the presence of mineralized veins, and making small excavations by hand on the veins. Dr. Robert H. Seraphim, geologist for Moneta Porcupine from Vancouver, has been supervising the work, and Leo Mark Anthony has been in direct charge in the field. The U. S. Bureau of Mines during the past few years has done exploration work on Quigley Ridge in the form of bulldozer trenching and sampling. This work has been under the supervision of Bruce I. Thomas. Moneta Porcupine has been able to derive considerable benefit from the excavations made by the Bureau.

The geochemical work has been done by taking soil samples from auger holes drilled on a grid pattern. The samples are tested in the field, the results are recorded, and, where a high reading is obtained, a conspicuous red marking is made on the top of the stake that is placed in the auger hole. Maps have been prepared showing locations of auger holes and other features, including excavations and veins, and the results

of the geochemical work.

The chemical test being used is that described as the "U of A method for soils" in University of Alaska Mining Extension Bulletin No. 2 by Leo Mark Anthony. Chemically pure sodium chloride, dithizone, and unleaded white gasoline are the only reagents required.

Some of the important geochemical anomalies have been small in area so that it has been necessary to use a closely spaced grid in order to avoid missing anomalies. The uphill terminations of some of the anomalies have been found to be 100 feet or more down the slope from the veins that caused the anomalies; probably this is because of the steep slopes and consequent rapid down-slope movement of the overburden. The geochemical work has been kept well in advance of the excavating, and, at the end of the 1961 field season, several strong anomalies had not yet been checked by digging.

An ore body 2½ feet wide by 100 feet long and continuing in both directions has been found on the Silver Pick claim. Samples indicate that it carries $50 per ton in gold and silver. A shaft has been sunk 20 or 30 feet on a vein on the Red Top claim at the toe of the southwest end of Quigley Ridge; the shaft had been closed for the winter at the time of my visit.

Most of the claims on Quigley Ridge have been patented.

PLACER OPERATIONS

During the summer of 1961, Henry Dyer and Slim Blackman mined on Friday Creek, using a small bulldozer to push into sluice boxes. Arlie Taylor and associates prospected for placer gold on Eureka Creek using

the cabins at Kantishna for headquarters. Both of these operations had ended for the season and the operators had left the district by September 7.

NEVERSWEAT LODE PROSPECT

For several years, Frank Bonnell has worked each summer on the Neversweat prospect, 3 miles up El Dorado Creek from Kantishna. At the time of my visit, he had completed the summer's work and had moved to Kantishna preparatory to leaving the district for the winter. Bonnell first came to the Kantishna District to install the equipment in the Red Top mill.

THE RED TOP MINE

The repeated use of the name "Red Top" in the Kantishna District tends to be confusing; the Red Top lode claim is at the southwest end of Quigley Ridge, and the Red Top mine is on the Banjo lode claim about 2 miles to the northeast at the head of Lucky Gulch. Mining began at the Red Top mine in the mid-1930's and continued until the World War II wartime shutdown. The mine operated under the management of the late Don R. Gustafson, who, at that time, was also managing the Hi-Yu mine in the Fairbanks District. The vein that was mined differs from most of the veins on Quigley Ridge in that it is an iron-stained gold-quartz vein carrying only minor amounts of sulfides with silver accounting for only a small part of the total value.

The Red Top mill was built in Lucky Gulch (see Fig. 3), and an aerial tramway was built to carry ore from the lower mine portal to the mill. The aerial tramway appears to have been made from drift-mining

equipment. The equipment in the mill is still in good condition, but the buildings are beginning to show signs of deterioration, and the equipment probably will not last long after it loses the protection of the mill building. Fig. 1 is a flow sheet of the mill.

SOME ECONOMIC ASPECTS OF THE DISTRICT

Prior to 1931, more than 1300 tons of ore - with a market value of approximately one-quarter million dollars - was shipped from the Kantishna District. Most of the ore was galena carrying gold and silver with the value of the silver greatly exceeding the value of the gold. By 1931, the road through McKinley Park had not been completed; the ore had to be hauled over wagon road and trail some 40 miles to Roosevelt or Diamond at the head of navigation in the Kantishna drainage, shipped by shallow-draft launch down Kantishna River, and transferred to riverboats on Tanana River. The road through McKinley Park was completed shortly after 1931. Depressed silver prices accompanied the general economic depression that began in 1929, and, from 1931 until World War II, there was only one year in which the annual average price of silver exceeded 48 cents per ounce; although from 1898 to 1930 the annual average price of silver per ounce had ranged from a low of 49.7 cents to a high of 111.1 cents. Because of the present low purchasing power of the U. S. dollar, there is some question as to whether or not the present price of silver can be considered to be "high"; but, if it is high, this is the first time that the silver price has been high since the Kantishna District has been accessible by road.

In reference to the McKinley Park road, Moffitt stated:

> "This road was laid out so as to take advantage of opportunities for giving the best views of the scenery to park visitors and

> in consequence has grades and curves that would not have been necessary if it were designed solely for heavy commercial traffic. A road intended primarily for the development of the Kantishna mining district would probably have been started from a point on the railroad farther north and possibly would not have entered the park."[1]

Not only is the park road undesirably located for freighting to and from the Kantishna District, but there is also reason to doubt that the Park Service would permit large-scale freighting through the park.

The history of the district, the silver market, the undesirable location of the McKinley Park road, the objectionable aspects of freighting through the park, and the current interest in the district are all factors that tend to justify the continuation of the Lignite-Stampede pioneer access road to Kantishna.

College, Alaska
March, 1962

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State Mining Engineer

[1] Moffitt, Fred H. THE KANTISHNA DISTRICT, U. S. Geological Survey Bulletin 836, 1933, page 305.

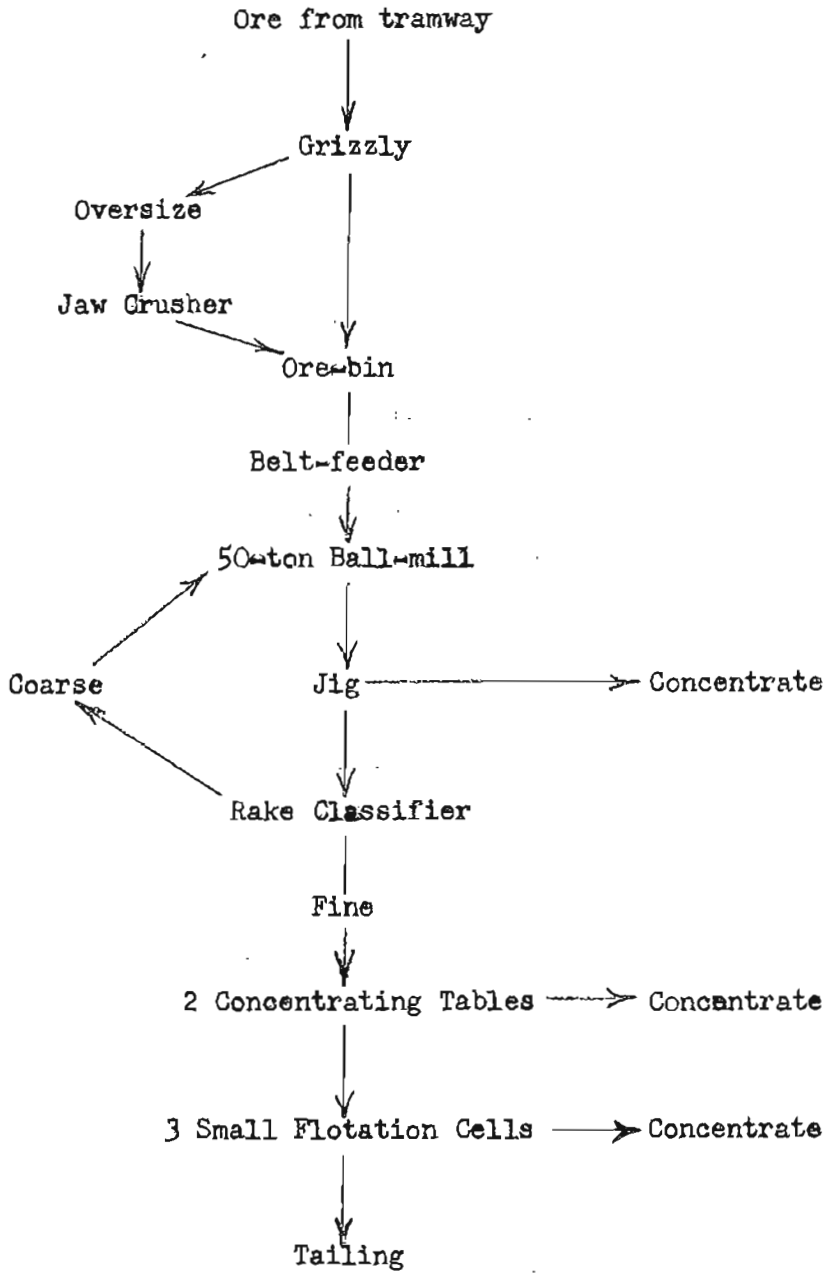

Fig. 1. Flowsheet of the Red Top Mill.

Fig. 3. Red Top mine, mill, and camp at the head of Lucky Gulch.

Fig. 2. View looking east from vicinity of Quigley cabin across Friday Creek toward southwest end of Quigley Ridge.