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Mica Deposits on Yellow Creek
Big Bend Area
Golden Mining Division.

Claims

A mica deposit upon which some work had been done about 1908 by Mr. Moodie was staked on September 8, 1943 as part of the Mica King Group by S. Pletsch of Revelstoke and on September 15, 1943 as the Clear White mineral claim by H. Ebert.

Location

The old workings are situated slightly below timberline at an altitude of 6400 feet between the westward flowing and northwestward flowing forks of Yellow Creek. (see Figure 1).

Topography

The region in which the deposit occurs is one of very rugged topography characterized by high jagged peaks, steep cliffs, cirques, and hanging valleys, with many picturesque glaciers and waterfalls.

Access:

An old trail leads from Boat Encampment where the Big Bend Highway crosses the Columbia River, along the southwestern side of the river for a distance of about 8½ miles, to the mouth of Yellow Creek (see Figure 1).

From this point an old pack-horse trail follows up Yellow Creek for about 8 miles to the remains of the old log cabins situated near the workings (see Figure 1). A foot-path leads from this old camp to the workings (see Figure 2) situated about 1500 feet south 60 degrees east of it.

Vegetation

The lower parts of the area are covered with a heavy growth of large cedar and hemlock trees and with a thick undergrowth of devil's club and ferns. At higher elevations spruce becomes dominant and the thick underbrush consists mainly of blueberry bushes.

Transportation Facilities

Many large fallen trees would have to be cut out before horses could be used in the trail from Boat Encampment to the mouth of Yellow Creek. The old trail up Yellow Creek is very steep in places but it is generally well located. However, many small bridges and long stretches of corduroy would have to be replaced and much fallen timber would have to be removed to make it passable for horses. A good road, 99 miles long, connects Boat Encampment with Revelstoke on the Canadian Pacific Railway. The Big Bend Highway also connects Boat Encampment with Golden, 94 miles to the south-east, which is also situated on the Canadian Pacific Railway.

Geology

The upper part of Yellow Creek is underlain chiefly by siliceous gneisses, mica schists and micaceous quartzites

which strike westerly to north-westerly and dip southward generally at angles of 25 to 35 degrees. Gneissic rocks having the same general attitude are reported to outcrop across the divide near the headwaters of Potlash and Mica Creeks.
(Newmarch, 1942; Watson, 1912, p. K143.)

The commonest type of rock consists mainly of quartz and muscovite with smaller amounts of garnet and biotite. Coarse gneisses composed mainly of kyanite, quartz, muscovite, biotite, and garnet are interbanded with the other rocks in places. Some of the bands contain 10 to 15 per cent of kyanite. Generally the bands of kyanite-bearing gneiss are only a foot or two thick but bands up to 15 feet thick are present.

Pegmatite sills and veins of glassy quartz are common in the area. The pegmatite which was quarried by Mr. Moodie is much larger and contains a much greater proportion of muscovite than other pegmatites seen in the area by the writer.

The exposures of pegmatite which may be seen in the quarry (see Figure 2) and in the stripped area 150 feet, North 80 degrees West of it (see Figure 2) are probably parts of the same irregular body of pegmatite but the pegmatite seen in the pit to the south-west (see Figure 2) is believed to be a separate mass.

The pegmatite sill exposed in the quarry intrudes schist and gneiss composed chiefly of quartz, muscovite, and bio-

tite, which have an average strike of north 50 degrees west, and a dip of about 65 degrees south-westward (see Figure 3). The dip of the rocks in this locality is somewhat greater than the regional dip. The pegmatite sill ranges from 5 to 20 feet in thickness. It is composed of coarsely crystalline quartz, white feldspar and muscovite. The part of the pegmatite exposed contains an average of approximately 10 per cent of muscovite. Some parts of the deposit contain up to 20 per cent over areas of 10 square feet. A few muscovite books measure 8 inches by 8 inches by 2 inches in thickness but most of them are much smaller. Most of the muscovite is twinned and much of it is badly cracked and iron-stained. Apparently, the largest sheets of untwinned, clear mica now obtainable from the deposit are thin sheets measuring about 3 inches by 2 inches. Only a small proportion - probably less than one per cent of the muscovite observed is of this quality.

The pegmatite exposed in a stripped area North 80 degrees west of the quarry (see Figure 2) is composed of quartz, feldspar, and muscovite and a minor amount of black tourmaline. The muscovite content in this locality is much less than it is at the quarry and the size of the sheets is generally much less and their quality much inferior.

The pegmatite exposed in the pit situated about 300 feet south 80 degrees west of the quarry is composed mainly of quartz, feldspar, muscovite, biotite, and tourmaline. Muscovite constitutes less than 5 per cent of the pegmatite

and none of the books observed measure more than 2 inches by 2 inches. Most of the mica is highly twinned, cracked, or stained or intergrown with biotite.

A small crystal of light bluish-green beryl was observed in the pegmatite at this locality. The presence of this beryl should be regarded as suggestive of a possible area in which to prospect for beryllium-bearing pegmatite rather than anything of economic significance in this particular pegmatite.

Spectrographic analyses revealed the presence of traces of beryllium in samples of biotite from this exposure, of muscovite from the quarry, of kyanite from a nearby pegmatite and of garnet from nearby gneiss country-rock. No beryllium was detected in samples of muscovite and feldspar from the exposure of the pegmatite in which the beryl was found. For comparison, spectrographic analyses were made of samples from the North Thompson area where a careful search by S.S. Holland had not revealed beryl. A sample of muscovite from a pegmatite contained a trace of beryllium but samples of biotite, feldspar, quartz, and kyanite, from pegmatite, and garnet from gneiss contained none. It is impossible from these meagre and conflicting data to interpret with certainty the significance of traces of beryllium as "pathfinders" in the search for beryl. It appears that the number of minerals containing traces of beryllium is greater in a locality in which beryl was identified than in a region

in which beryl has not been found.

Mica Queen Group

A mica-bearing pegmatite sill close to Yellow Creek at an altitude of approximately 5000 feet (see Figure 1) was staked on September 26, 1943 by W.H. McLean as the Mica Queen Group. The pegmatite sill is enclosed in highly contorted muscovite schist which strikes north 65 degrees west and dips southward at 20 to 30 degrees. The sill is 3 to 5 feet thick and is exposed on a steep cliff for a distance of about 150 feet. In a few places the pegmatite contains up to 15 per cent of muscovite over areas of 20 square feet, but the average mica content of the entire exposure is much less. Although some books as large as 5 inches by 4 inches by 1½ inches were seen, they are twinned. The largest sheets of untwinned mica obtainable appear to be about one inch by one inch and they would represent only a very small fraction of the total amount of mica.

Conclusions

In my opinion none of the deposits examined could be operated profitably, even at the premium prices paid at present for mica by Colonial Mica Corporation, agent for Metals Reserve Company. In the future, prices will probably decrease considerably. At the present time, Colonial Mica Corporation pays $6 (U.S.) per pound for mica of the same quality obtained from India, the normal source of supply, which is sold for $1.60 per pound. (Mining & Metallurgy, November, 1944)

No mica was seen of mineralogical character, size, or quality comparable to a specimen reported to have come from the Yellow Creek Area, which was given to the Department of Mines in 1944.

References:

Mining and Metallurgy, November, 1944.

Newmarch, Chas. B. - Muscovite Deposits.
Mica Creek Area, Revelstoke Mining Division, British Columbia, B.C. Department of Mines. Unpublished.

Watson, A.J. - Notes on Big Bend District - B.C. Minister of Mines Annual Report 1912 p. K143.

December 6, 1944. K.DeP. Watson.

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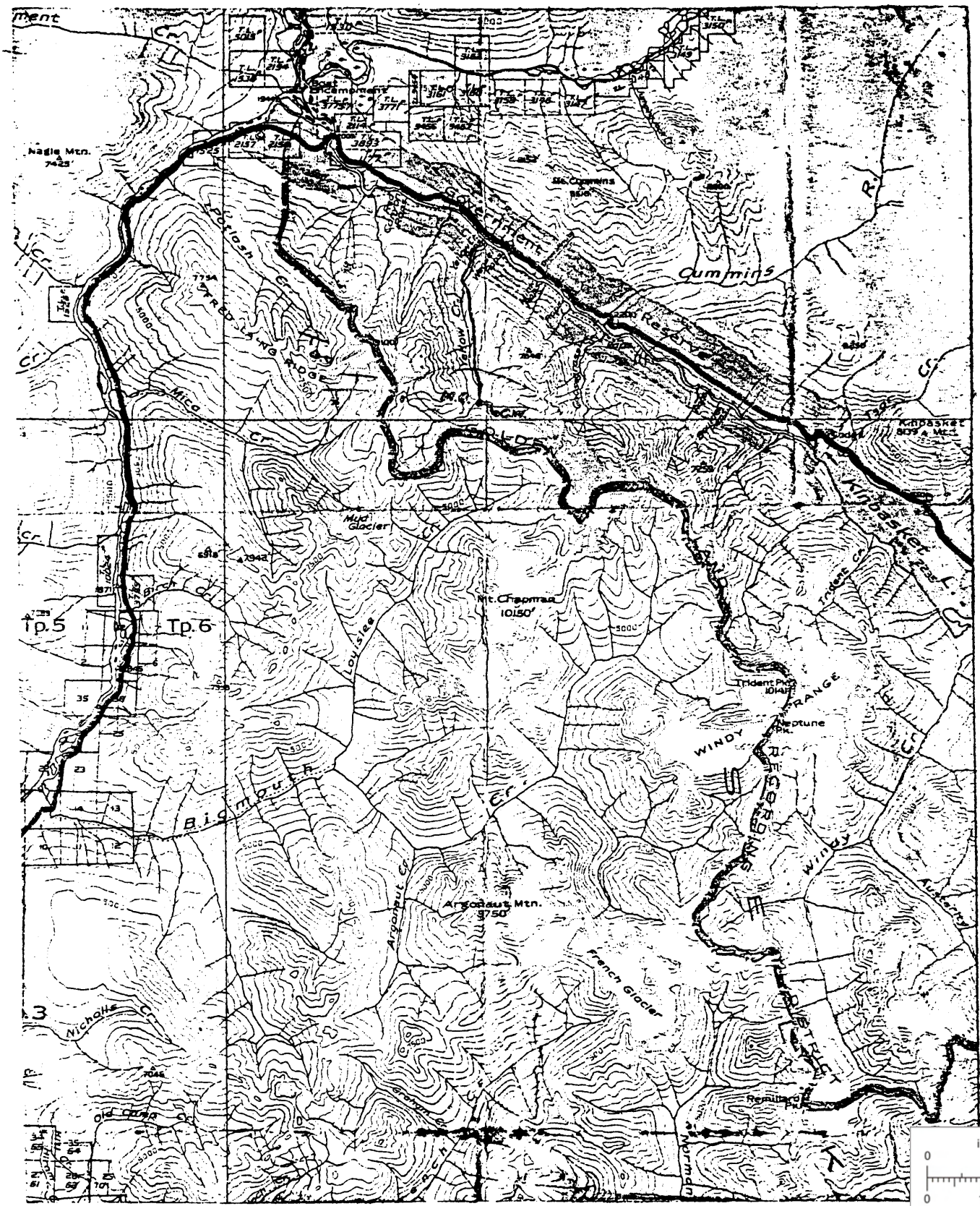

inches
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Legend

M.Q. - Mica Queen
C.W. - Clear White or Mica King
---- Trail

Figure I

MICA DEPOSITS YELLOW CREEK

1 inch = 4 miles.

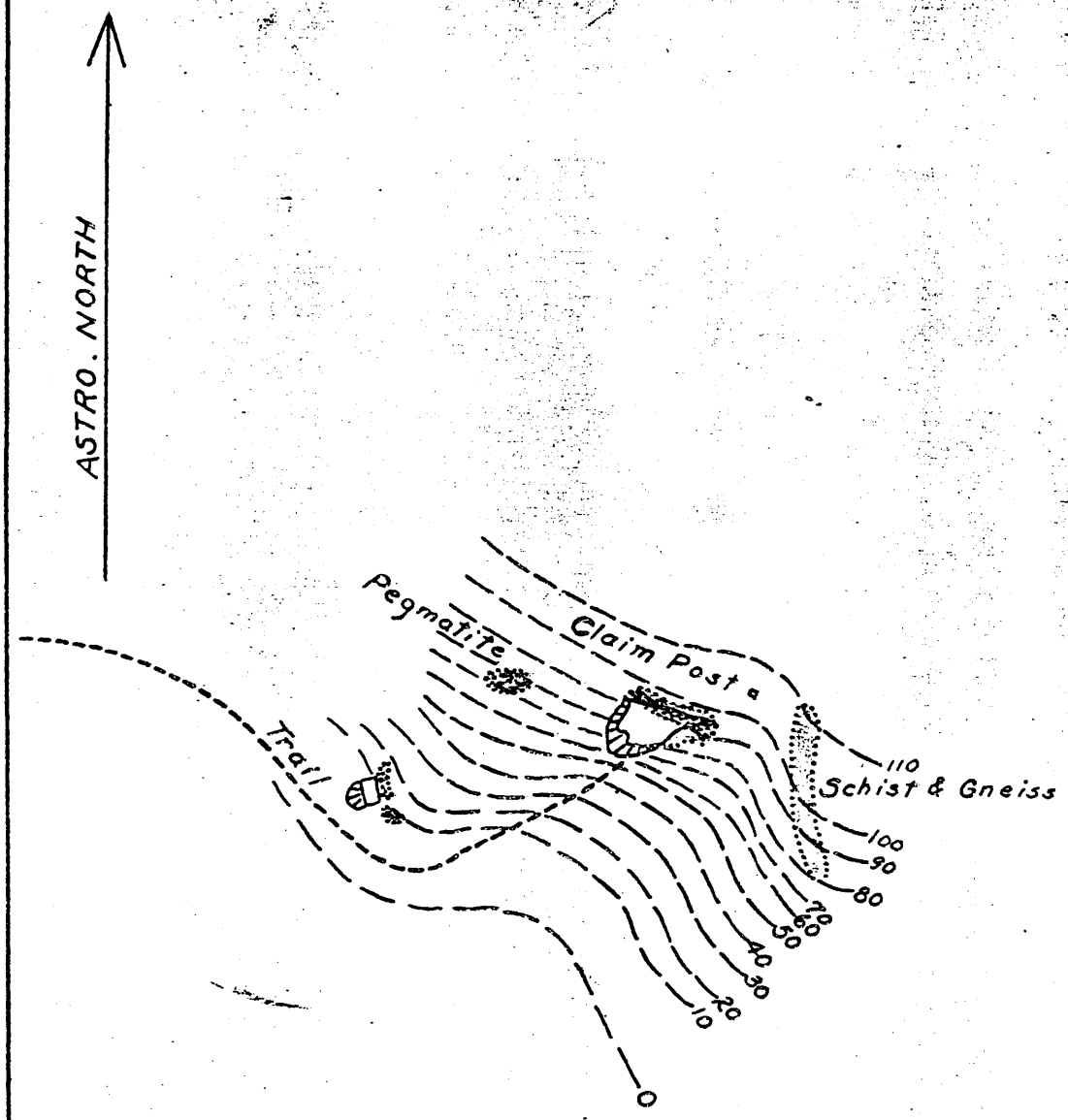
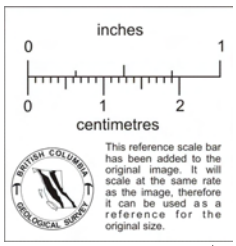


Figure 2
MICA DEPOSITS
YELLOW CREEK
1 inch = 200 feet



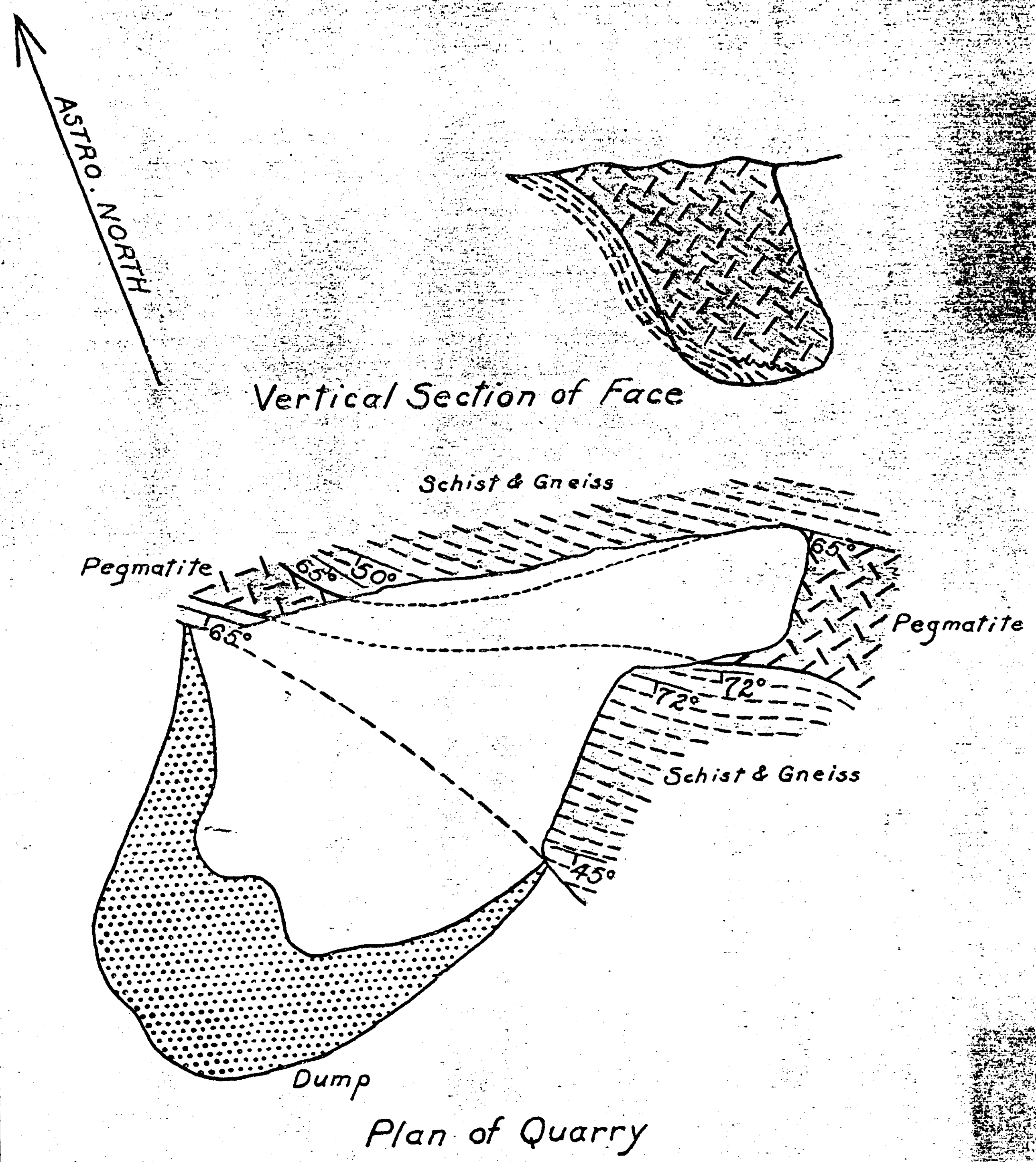


Figure 3
MICA DEPOSIT
YELLOW CREEK
1 inch = 20 feet.