

TERRITORY OF ALASKA
DEPARTMENT OF MINES

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REPORT ON THE EXAMINATION OF A COPPER PROSPECT ON BUTTE
CREEK, TALKEETNA MOUNTAINS QUADRANGLE

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by

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In the summer of 1955, Fred S. Pettyjohn and H. S. Newman prospected in the mountains that lie south of lower Butte Creek on the west side of the upper Susitna River. In the course of their prospecting they found a conspicuous, iron-stained outcrop from which they took three samples that were assayed at the TDM Assay Office at College in the fall of 1955. According to the assay returns, the samples contained 4 per cent, 18.15 per cent, and 11 per cent copper, respectively, although no copper minerals could be seen in hand specimens taken from the deposit. Pettyjohn made plans to return to the area to stake the outcrop, and he requested that an examination be made by the TDM. On July 1, 1956, he staked two claims on the outcrop, and an examination was made on July 3 and 4, 1956, by Robert H. Saunders, Associate Mining Engineer.

Copper minerals were reported in this area by Fred H. Moffit in U. S. G. S. Bulletin 608, THE BROAD PASS REGION, ALASKA, 1915. In 1954 a reconnaissance of the area was made by two TDM engineers, and a report was written entitled: REPORT ON A RECONNAISSANCE BY MARTIN W. JASPER AND ROBERT H. SAUNDERS ON UPPER BUTTE CREEK, TRIBUTARY OF THE SUSITNA RIVER, February, 1955. No indications of commercially important deposits were found during the reconnaissance.

The outcrop is at 62° 59' N latitude and 147° 52' W longitude in the northeastern part of the Talkeetna Mountains Quadrangle. The accompanying map shows the location of the prospect and the route followed during the reconnaissance of 1954. The deposit

is exposed in the walls of a narrow canyon; the canyon trends N 15° E at the exposure, and the deposit strikes north-south and has a vertical dip. The outcrop is 200 feet long; it is 65 feet wide at the widest part, but it tapers in both directions to a width of 15 to 20 feet before it goes ~~under~~ the overburden. There are indications that the deposit extends at least 800 feet to the south.

The wallrock is dark-colored, volcanic rock that probably would be classified as greenstone. The deposit itself appears to be a fracture zone along which solutions have traveled, altering the greenstone and depositing quartz and a few other minerals.

During the 1956 examination five samples were taken; they were assayed at the TDM Assay Office at College, and the results were as follows:

Sample No.	Width	Ounces per Ton		Per Cent Copper	Location
		Gold	Silver		
24	4 ft	Tr	0.18	0.1	West wall.
25	20	N11	0.06	0.1	East of 24.
26	10	Tr	0.06	N11	Extension of 24, 25.
27	20	N11	0.10	0.1	25 ft N of 25.
28	1.5	N11	0.06	0.1	Branch vein 200 ft S of main exposure.

From these results it appears that an error was made in assaying the samples brought in by Pettyjohn in 1955. The fact that copper minerals cannot be seen with the hand lens even in the oxidized part of the deposit substantiates the low results shown in the 1956 assay returns. The prospect was abandoned, and the claims were not recorded.

