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TERRITORY OF ALASKA

DEPARTMENT OF MINES

NOTES ON THE OCCURRENCE OF CINNABAR AT CANYON CREEK, *Pl 60-81*

EAGLE QUADRANGLE, ALASKA

by

Robert H. Saunders

Associate Mining Engineer

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Cinnabar on Canyon Creek, tributary to the Seventymile River, is mentioned in U. S. Geological Survey Bulletin 872, THE YUKON-TANANA REGION, ALASKA, by J. B. Mertie, Jr, 1937, and in Territorial Department of Mines Pamphlet No. 1, STRATEGIC MINERAL OCCURRENCES IN INTERIOR ALASKA, by Henry R. Joesting, 1942. In past years a few prospectors have worked on Canyon Creek attempting to find either a placer deposit in gravel bars along the creek or a lode deposit in the headwaters of the creek. A prospector (now deceased) from Eagle reported that prior to World War II he had recovered appreciable amounts of cinnabar by panning one of the gravel bars in the creek. In 1942 he accompanied a U. S. Geological Survey party to Canyon Creek to show them where he had panned, but new gravel bars had been deposited in the canyon and the bar from which he had recovered the cinnabar had been either removed or buried.*

Field investigations for the Department of Mines in the Seventymile River region in 1955 provided an opportunity to visit Canyon Creek and obtain some information about the cinnabar occurrences there.

Canyon Creek empties into the Seventymile River at about 64° 56' N latitude and 141° 49' W longitude. There is a trail about 30 miles long from Eagle to the mouth of Canyon Creek; the first 15 miles of trail from Eagle is a good tractor trail, but the remaining 15 miles is a foot trail which in places is nearly obscure. The tractor trail could be extended to Canyon Creek with no great difficulty. The Seventymile River is navigable

*From conversation with Robert M. Chapman, U. S. Geological Survey.

for small river boats upstream as far as the mouth of Canyon Creek. At Crooked Creek, about five miles downstream from Canyon Creek, there is a landing strip suitable for small aircraft. The landing strip, however, is on the north side of the river so that it is necessary to have some means of crossing the river in order to get from there to Canyon Creek.

Canyon Creek is about three miles long. The creek flows through a steep-walled canyon, which, throughout most of its length, is about 20 feet wide at the bottom. In July 1955 there was still ice left in places along the floor of the canyon. On a low bench near the mouth of the creek there was a gravel bar lying on top of vegetation; this bar appeared to have been deposited in the spring of 1955. Apparently each year the spring floods create numerous changes in the unconsolidated deposits on the canyon floor eroding the existing gravel bars and depositing new ones. These annual changes would prevent the formation of a continuous placer deposit on the creek, and they would also explain why the prospector who accompanied the U. S. Geological Survey party to the creek in 1942 failed to find the gravel bar on which he had previously found cinnabar.

Mr. John Olsen of Eagle has spent some time prospecting on Canyon Creek. He has been unsuccessful in trying to find the bedrock source of the cinnabar, and his work has led him to believe that the cinnabar has been reconcentrated from an old channel in a pre-existing drainage pattern, and that there is no bedrock

source in the headwaters of Canyon Creek. The only other cinnabar occurrences reported on tributaries to the Seventymile River, however, are on a tributary to Mogul Creek that heads near the head of Canyon Creek, and it seems likely that if the cinnabar came from an old channel the occurrences would be more widespread. Several pebbles of cinnabar from the creek were obtained from Mr. Olsen. An assay by the Territorial Department of Mines Assay Office at College showed that those pebbles contained 48.33 per cent mercury.

