[redacted] PE-058-14

EXAMINATION OF A GOLD PROSPECT ON NUGGET CREEK, FAIRBANKS QUADRANGLE

During the past few summers, small-scale placer mining has been in progress on Nugget Creek in the Fairbanks District. Narrow quartz veinlets carrying visible free gold have been uncovered by the placer mining. James Brumfield, one of the owners of mining claims on the creek, requested that the property be examined, primarily to estimate the importance of the quartz veinlets as indicators of minable lode deposits. The property was examined on September 7, 1963.

Nugget Creek is a tributary to Smallwood Creek, which is a tributary to Little Chena River. The claims lie in the valley of upper Nugget Creek in the northeast corner of the Fairbanks quadrangle at 64° 58" N latitude and 147° 26' W longitude. They lie across the east boundary of Section 36, Township 2 N, Range 1 E, Fairbanks Meridian. The upper part of Nugget Creek is covered by both placer and lode claims, which are owned by Mr. and Mrs. James Brumfield and Stanley Robertson, all of Fairbanks. The property is accessible by automobile via the Steese Highway, Steele Creek Road, and Gilmore Trail. The distance by road from Fairbanks is 15 miles.

GENERAL GEOLOGY

There are no natural rock outcrops on the claims. Plate 3 in U. S. Geological Survey Bulletin 849-B, LODE DEPOSITS OF THE FAIRBANKS DISTRICT, ALASKA, by James M. Hill, shows an intrusion of granite porphyry extending along the ridge south of Gilmore Creek from the head of Engineer Creek to the head of Pearl Creek, a distance of about 7 miles. All of the bedrock exposed by placer mining is a part of this intrusion. In places the granite has weathered to such a degree that it resembles hard-packed sand, but in other places it is relatively unweathered and is hard and blocky. Large granite boulders are common in the alluvium.

PLACER MINING

The owners are employed in Fairbanks; they mine and prospect on weekends and in the evenings. They use a small crawler-type tractor for stripping moss and one or two feet of overburden. The remaining two to four feet of gravel is shoveled by hand into a 6-inch sluice box. They use water from Nugget Creek for slucing, and the amount of water is barely sufficient for the present scale of operations.

The cut being mined is on the left-limit side of the valley, and the pay extends beyond the cut toward the right limit. The deposit appears to be a combination of creek placer and residual placer. Much of the gold is fine; some is angular, and some is well rounded. Some of the bedrock is difficult to clean because the gold tends to settle in fractures in the rock when the ground is disturbed. Some prospecting has been done upstream from the present cut. According to James Brumfield, the pay extends upstream for at least three claim lengths, and it forks into two branches at a headwater fork of the creek.

LODE DEPOSITS

Several quartz veinlets about 1/4-inch thick, carrying visible free gold, have been exposed in the granite bedrock in the placer cuts. According to James Brumfield, the granite, away from any quartz veinlets, carries 70¢ per ton in gold. None of the veinlets found so far have been wide enough to be minable, although some of them obviously are high grade. The veinlets exposed in the cuts are too widely spaced to bring the tenor of any large mass of rock up to minable grade. There is a good possibility, however, that one or more wider veins or veinlets exist in the porphyry, and there is also a possibility that a stockwork may be found in which closely spaced veinlets can be mined as a unit. Apparently the best way to prospect the area for lode deposits is simply to continue the placer mining and examine carefully all of the bedrock exposed in the placer cuts.

DECEMBER, 1963
Fairbanks, Alaska

Robert H. Saunders
State Mining Engineer