UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Juneau, Alaska, November 27, 1926.

Mr. N.L. Wimmler,
Hotel Whitecotton,
Berkeley, California.

Dear Mr. Wimmler:

In another envelope I am sending you a copy of some data on Canyon Creek, Kwithluk River. I feel that I should apologize for my placer data as I had so little time to devote to it. The Canyon Creek visit was limited to 1 day. I walked 200 miles to take in Canyon Creek and the bum coal on Eek River in the same trip.

I am very undecided as to my future actuvity. I will not go back to the Alaska Juneau as I cannot pay living expenses there. I have blown a bubble and hope I can get some one interested in having me make a report on pyrite occurrence in southeastern Alaska with regard to the coming of the pulp and paper industry. Have a chance for some locations near Ketchikan. How would you like to mine Pyrite?

Best regards,

Sincerely,

Frank W. Holzheimer

FRANK W. HOLZHEIMER
Associate Mining Engineer
(My commission expires Dec. 23, 1926).

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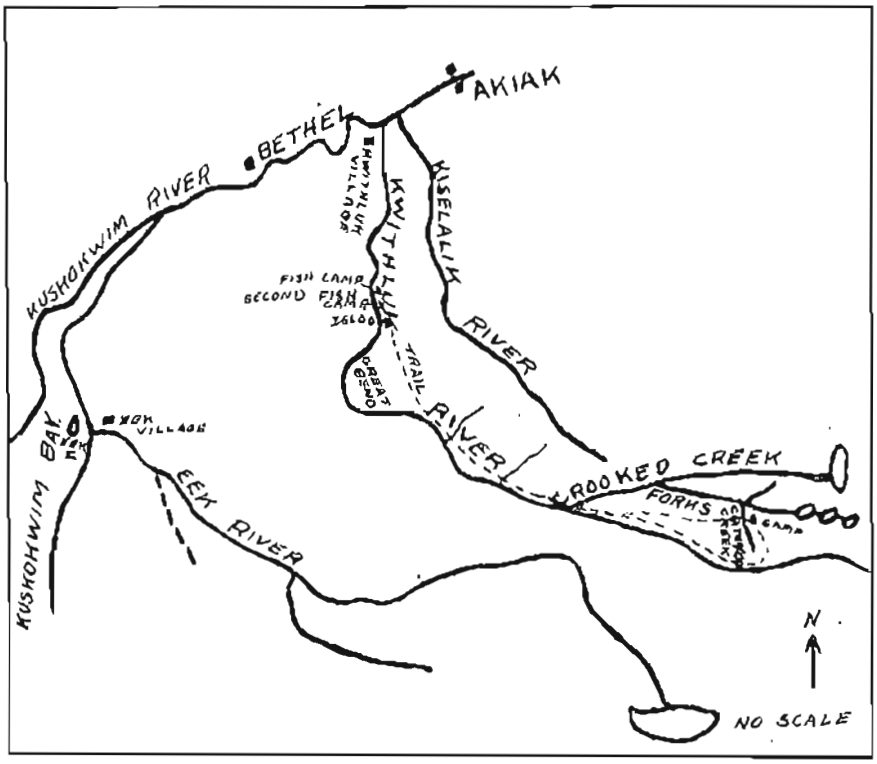
CANYON CREEK, KWITHLUK RIVER REGION, ALASKA

By Frank Holzheimer
1926

LOCATION AND ACCESSIBILITY



Sketch map showing location of Canyon Creek.

Kwithluk River flows north into the Kuskokwim River about 18 miles below Akiak. Canyon Creek drains a narrow valley, 2 miles in length, about 95 miles air line from the mouth of the Kwithluk River. The waters of Canyon Creek reach the Kwithluk River through Forks and Crooked Creeks. Crooked Creek is a north branch of the Kwithluk River flowing west into the Kwithluk River about 75 miles from the Kuskokwim.

Canyon Creek is most easily accessible by winter trail from Akiak or Bethel. Summer travel on the Kwithluk River is restricted to poling boats. The nearest point to Canyon Creek, except in cases

of extreme high water, reached by poling boat is a small native village known locally as the second fish camp, 70 miles from Canyon Creek by trail. The second fish camp is 25 miles from the mouth of the Kwithluk by tundra trail or 70 miles by river.

The trail to Canyon Creek is only practical for foot travel. The Alaska Road Commission maintains two boats for the crossing at the mouth of Crooked Creek. Transportation of supplies and equipment is done in winter. There is no timber available nearer than 50 miles. Thousands of reindeer are herded in the upper Kwithluk River country.

TOPOGRAPHY

The second fish camp marks the break between the tundra topography and the foothills. The main range of mountains forms the divide between the Kwithluk River and the Kiselalik River on the east. A low rolling divide separates the Kwithluk from the Eek River on the west. At a point opposite Canyon Creek the Eek and Kwithluk Rivers are 4 miles apart; they are over 100 miles apart at the mouth.

The mountains reach an altitude of 5,000 feet. It is said that the mouth of Canyon Creek has an elevation of 1,558 feet above the mouth of the Kwithluk River, or 2,000 feet above sea level. The grade of the creek is 8 per cent. The mountain topography in the vicinity of Canyon Creek is broken by small stream valleys and the larger valleys of Forks and Crooked Creeks. Tundra extends for some distance on either side of Kwithluk River. Small lakes are found at the heads of most of the streams. It is possible that, in the event of necessity, some water power site can be found.

GEOLOGY

The mining on Canyon Creek has been confined to placer operations. Mr. Herman Oman has uncovered a gold quartz deposit in the bed rock of his placer ground. The values in the quartz are exceedingly high, but the development work done on the prospect has not been enough to give an idea of the extent of the lead.

Some time would be necessary to work out the details of the geologic relationship along Canyon Creek. The predominating rock is a black slate. A quartz porphry dike cuts the slate at the head of Canyon Creek. A similar dike is found near the mouth. It is thought that the mineralization is associated with the dikes forming the source of the placer gold. The occurrence of the high grade quartz stringers at Oman's is strongly suggestive that the placer gold resulted from the erosion of these and similar stringers. Rhyolite tuff, chert, argillite, and conglomerate were recognized in the outcrops along the creek.

The depth of the gravel on Canyon Creek averages 6 feet and the pay extends over a width of approximately 100 feet. The gold is not coarse, the largest nugget found weighed slightly more than 2 ounces. The coarser gold is found away from the mouth of the creek. The gold is in the form of small flat nuggets and averages $18.11 per ounce. The bedrock is slate.

U. S. Geological Survey Bulletin 622, "Mineral Resources of Alaska, 1914," pp. 356-357 gives brief mention of Canyon Creek in an article by A. G. Maddren, "Gold Placers of the Lower Kuskokwim."

PLACER OPERATIONS

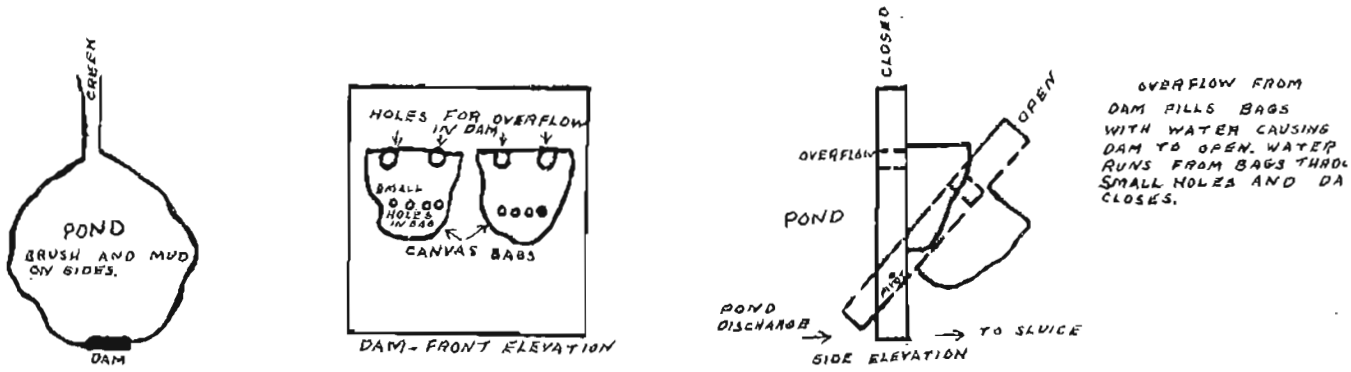
Canyon Creek was discovered in 1913 by Jens Squalmie as a result of the overflow of the Iditarod stampede into the Kuskokwim country. Placer operations were started in 1914 and have been carried on on a small scale since that time. Canyon Creek may be regarded as a small rich placer deposit.

Canyon Creek placer camp

Shoveling-in operations are carried on at the present time by two operators, Herman Oman, and Anderson Brothers. Herman Oman employees two natives; two natives are also employed by Alfred and Ole Anderson making a total of 7 men employed on the creek. The native labor is available for $100 per month and board.

Placer operations have extended from No. 1 below discovery to No. 5 above. The ground from No. 1 below to No. 3 above has been worked out. The Andersons are working No. 3 above. No. 4 above has been leased by Herman Oman from Mr. P. M. Spain. Herman Oman is working No. 5 above. No. 5 above marks the location of the lode discovery. There is no frozen ground.

Water is available for 1 shift daily continuous operation throughout the season. Ground sluicing started June 15, this year. It is expected that the length of the present season will be 110 shifts. An automatic dam has been constructed on the Anderson property.



Automatic dam, Canyon Creek.

This method insures a regulated flow of water and is very successful.

The gold values are unevenly distributed and lie close to bedrock. The slate is fractured near the surface and there is some concentration along the small fractures in the slate. The loose slate is shoveled into the sluice boxes. The bedrock is scrubbed with a wire brush, all small particles being washed into the sluices.

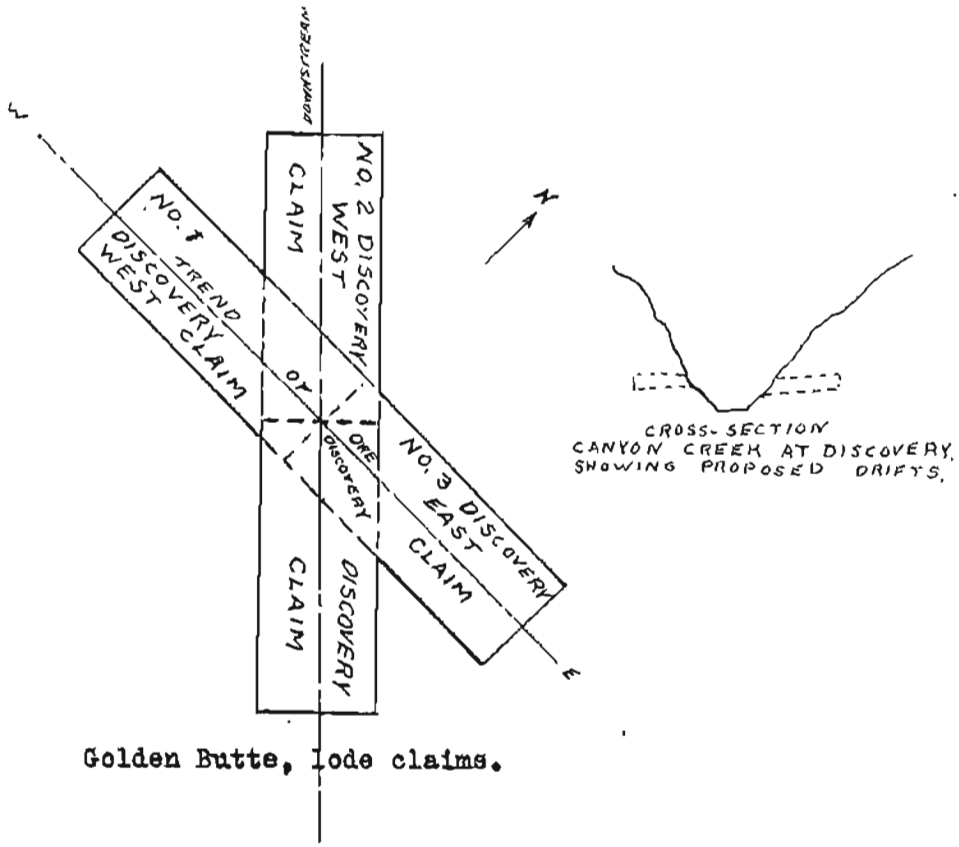
A sample of the placer concentrate was submitted by Herman Oman. The gold is amalgamated and the rest of the concentrate rejected. The concentrate was reported on by Mr. Paul Hopkins, U. S. Bureau of Mines, Fairbanks, as follows: "The sample contains considerable gold.

The most abundant mineral is magnetite. The only other black minerals noted were ilmenite and rutile in small amounts. The amount of garnet present is unusually small for this class of material. Lead carbonate, cerrusite, is present in fine white grains. A few grains of cinnabar were seen. No tin, tungsten or barium were found. No attempt was made to identify the light colored silicates, since too many varieties were present. After careful amalgamation the sample contained gold and silver as follows: Gold...6.15 oz. per ton. Silver...0.50 oz. per ton. The appearance of the bed indicates a small amount of platinum, probably between 0.10 and 0.20 oz. per ton. On account of the small size of the sample no attempt was made to make an assay for platinum." Some cube pyrite is found in the cleanup.

The placer concentrate, after amalgamation, is saved but the operators are undecided as to the best method of its disposal. The amount collected in a season is not large.

GOLDEN BUTTE QUARTZ PROSPECT K-211-15

Herman Oman, during sluicing operations of 1916, discovered a number of high grade quartz stringers in the slate bed rock. The stringers are from 4 to 12 inches wide and have a general east west trend paralleling the slate. It is said that at one time the stringers were uncovered for a length of 300 feet. Four lode claims were staked, in 1920, over the placer ground as shown in the accompanying sketch. The prospect is known as the Golden Butte.



Golden Butte, lode claims.

Only portions of the outcrop were visible at the time of visit. It is said that there are two main stringers 12 inches in width. Small stringers parallel the main stringers making a mineralized zone of unknown width. A 12-inch gouge comprises the hanging wall of the mineralization. Free gold may be panned from the gouge and the decomposed quartz stringers. A number of undecomposed quartz pieces were taken from the mineralized area. The quartz was washed thoroughly to prevent salting by any concentration of gold in the fissures. The small particles were rejected. This quartz had a bluish tinge and was selected as representative of the highest value, according to Mr. Oman. The sample was assayed by Mr. Paul Hopkins, Fairbanks, as follows: Gold 22.76 oz. per ton. Silver 3.60 oz. per ton.

The sides of the Canyon Creek valley rise steeply from the creek. Development work has been confined to the bed of the creek. A shaft was sunk, in 1920, at discovery for a depth of 8 feet. The rock was reported to be broken and altered. This shaft, as other stripping operations, were covered by gravel during high water. It was the intention of Mr. Oman to sink a new shaft damming the creek to prevent the inwash of gravel. Mr. Oman was advised to clear away the slide rock from the hill along the trend of the vein on both sides of the creek and drift on the ore. Shaft sinking is retarded by water seeping through the broken rock. It was suggested to Mr. Oman that a drift would give more information for less expense than a shaft and eliminate flooding.

The future development work on the Golden Butte prospect will be of interest. It is planned to run as much drift as possible this fall. Should the mineralization show extent the possibilities are good for a small high grade mine. The ore is free milling. A small concentrating plant can be taken to the prospect in winter. There is sufficient water for summer milling. The operating cost will necessarily be high due to the isolated location of the prospect and absence of timber. Low brush is used at the present time for fuel. The amount of development justified will depend on the nature of the ore in the drifts. The Golden Butte may be classed as a good prospect. Further exploration may discover other prospects along the upper Eek and Kwithluk Rivers.