REPORT OF INVESTIGATIONS AND ITINERARY OF J. C. ROEHM
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IN THE

KOYUKUK PRECINCT
ALASKA

August 15 to 22 inclusive
1949

SUMMARY

A total of sixteen placer operations were found active, eight of which were visited, in the Koyukuk Precinct during the season. These consisted of six bulldozer-hydraulic operations, two dragline-bulldozer-hydraulic operations, three hydraulic operations, one bulldozer-ground sluice operation, two shovel-in operations, one active drift mine and one drilling operation. Four men were found prospecting and sniping. This makes a total of fifty-three men engaged in mining in the precinct, and total of five full time prospectors and a few part time prospectors.

COSTS

High costs, mainly due to high cost of transportation of supplies plus the generally high costs of supplies and equipment, are much in evidence within the precinct. These high costs account for the low production in the precinct more than any other factor. Erratic and scattered pay together with lack of drilling and testing facilities is another factor that contributes to a limited production within the precinct.

Diesel oil delivered at Wiseman costs sixty cents per gallon.
Freight rates from Seattle to Wiseman amounts to seventeen cents per pound.
Air Freight from Fairbanks to Wiseman amounts to ten cents per pound, except where a full load of ten tons is chartered, thence the rate is reduced to five cents per pound.

OTHER FACTORS AFFECTING PRODUCTION

Glaciation of the large river valleys, together with numerous alpine glaciers from the high peaks to the large valley glaciers, has in the past been the major cause for the highly scattered and disrupted placer deposits found in the Koyukuk District. These exists considerable evidence, that some of the placer deposits were deposited from thermal waters issuing from the highly fractured sediments and tuffs of the district during the period of glaciation. Many of the placer deposits are residual and located within a limited area surrounding the vents of the issuing thermal waters of the past. They are found existing near the mountain tops, along steep benches and escarpments down the creek and river beds. The concentration in many instances has resulted more along the courses of the former thermal waters than by concentration by weathering agencies including large rivers and streams.

The Hamon River, which joins the Koyukuk four miles above Wiseman, contains a drowned valley with a lower deep channel. This lower channel is believed to have been over-riden by the glacier that occupied the present valley. A few small sections of this deep channel has been drift mined and good pay has been reported. From the extent of mineralization found along the steep banks of the river, and the many small short tributaries which contained pay, Hammon river appears to offers future potentialities for placer mining.

Myrtle Creek is at present the largest producing creek in the precinct. Here a re-mining venture has proven very successful. The creek was formerly mined by hydraulic, and the greater portion of the pay gravels were removed and mined. Much higher pay was later discovered in the altered and fractured bedrock. The present operation, the Myrtle Creek Mining Company, uses rooters to tear up this bedrock, thence the loosened bedrock is bulldozed and hydrauliced into sluices and a high production is recovered.

There are no doubt other creeks in the district, which have been hydrauliced in the past, and where bedrock pay still remains, since similiar kinds and types of bedrock are general in the area.

August. 15 Fairbanks to Wiseman.

The Myrtle Creek Mining Company is operating a dragline-bulldozer-hydraulic on Myrtle Creek, twenty miles via cat trail southeast of Wiseman. Ten men are employed under the direction of John Repo. Two ten hour shifts are worked. The method of mining consists of using rooters to tear up the bedrock, thence pushing the broken bedrock and remaining gravel through sluice boxes with the aid of bulldozers and hydraulic. Dragline is used to stack tailings. The bedrock is a flat dipping sedimentary schist, highly altered and fractured. Equipment consists of two D-8 Caterpillars, one D-4 Caterpillar, dragline, rooters, diesel operated pump and pipe for hydraulic water. The company has considerable bedrock pay above the site of their present workings, and have been making a good production.

Victor Neck owns most of the ground on Myrtle Creek. He is engaged in prospecting on upper Myrtle Creek.

August 16. Wiseman to Nolan Creek.

R. H. Jones is operating a small hydraulic plant on his claims on Gold Bench, located on the right limit of Smith Creek above its junction with Nolan Creek. The bedrock on this bench consists of flat dipping sedimentary schists and tuffs, considerably fractured and containing numerous quartz stringer veins. These small veins contain abundant stibnite. The schists and tuffs are leached and decomposed, which indicates very recent thermal water action. Hot water vents, now ceased flowing, and associated minerals deposited as sulphates and sulphides are much in evidence in the newly mined cuts. The bedrock is benchy and has steep slopes, and it is nearly void of gravel.

The bedrock is covered with from two to ten feet of frozen muck and scattered rocks. The gold is in nugget form, and most of it is picked up by hand after the frozen muck has been removed by hydraulic. Some of the old hot water vents contain nuggets, while others appear to be lacking of gold. The greater portion of the nuggets are found close to these old hot water vents and the quartz stringers containing the abundant stibnite. Nuggets of value up to eleven hundred dollars ($1100.00) have been found on this bench. Jones is working alone this season, and expects to drift mine on Nolan this winter.

Another notable section from which considerable gold was mined in this area is the Swede Fraction Claim. This claim is located on the right limit of Nolan Creek, one half mile above the mouth of Smith Creek. Two hundred and fifty thousand dollars worth of gold (old Price) was recovered from shafts on a few thousand feet of bedrock. The gold from this claim was fine, and was confined in a partly consolidated stratum of gravel next to bedrock. The gravel consisted of fine angular pieces of bedrock cemented with iron oxides, pyrite, antimony sublimates, and the carbonates of calcium and magnesium. The bedrock of fractured sediments and tuffs was found highly altered and stained by the action of thermal waters and gas vapors. Apparently the rich section was a highly fractured area inwhich thermal waters and hot gases found their access to the surface and precipitated the oxides, carbonates, sulphides and the gold. This precipitation appears to have been caused by the thermal waters and gases reaching the zone of free oxygen and mingling with cold waters causing a rapid reduction in temperature.

Charles Peterson is prospecting at the head of Smith Creek, near the top of a small peak near the summit of the divide. Mr. Peterson reported finding nuggets on the bedrock near the top. No gravels were found on the summit or top of the peak, nor on the slopes. However evidence of old thermal springs was noted in several places in the schist bedrock. Nuggets found were over an ounce in weight. Stibnite in quartz was noted in several of the float pieces picked up on the slopes.

Joe Ulen and Sammy Pingalo are engaged in putting down a bedrock drain in preparation to mining on Mary's Bench, located on the left limit of Nolan Creek above the mouth of Smith Creek and directly opposite Swede Fraction Claim. This bench ground is deep, consisting of three feet of moss and roots, thirty feet of frozen muck, and from fifteen to twenty feet of coarse gravels. This gravel is unsorted part of which is worn and part is angular and contains several large glacial boulders. The bedrock consists of a fractured shale which has a low dip into the slope to the north. This bedrock shows considerable alteration, and the pay lies on top of a black carbonaceous shale bed. Most of the gold produced formerly from this bench consisted of rough nuggets, up to one ounce in size together with a small amount of fine gold.

On date of visit by the writer they were engaged in thawing with hydraulic and drilling and blasting the bedrock drain. Water is brought to the bench from a ditch up Smith Creek. This bench is nearly two hundred feet above the level of Nolan Creek. Water supply is dependent upon melting snow and rainfall. Two men are employed.

S. Wanamaker is prospecting using hydraulic water on Discovery Bench Claim of the Wooll Estate Holdings, situated on the left limit of Nolan Creek between Faye and Archibald Creeks. Water is obtained from a long ditch extending up Faye Creek. Prospecting is confined to the area below the ditch and above the old discovery workings. One nozzle is used to thaw the black frozen muck, twenty to thirty feet thick over a few feet of gravel. Nearly all the pay on the Wooll Estate Holdings, which consists of four full bench claims and two fractions, has been mined. Erratic spots were found on this high bench channel on these holdings which were exceedingly rich.

O. L. Chappell is operating a bulldozer-hydraulic plant alone on the right limit of Thompson Gulch, tributary of Faye, the latter tributary of Nolan. His deposit appears to be a residual deposit with the gold having been deposited by thermal waters issuing forth from bluff outcroppings of low dippings shales. The deposit is four hundred and fifty feet above the bed of Nolan Creek and two hundred feet above the creek bed of Faye, and only five hundred feet distant from Faye. The greater portion of the gold, thus far mined, was found on a little flat directly below the shale bluff outcroppings. Considerable gold is now being mined from the altered seams of the shales on the sides of the bluffs. Chappell uses a hydraulic nozzle to wash the gold and soft bedrock from the bluffs unto the flat, where he uses a bulldozer to push the material through boxes. This season two cuts, totaling sixteen hundred bed rock feet and six thousand bedrock feet were mined with a total production of fifty nine ounces. Former mining on the flat below the bluffs, which measured seventy thousand bedrock feet produced eighteen thousand dollars in recovered gold. This gold averages 940 in fineness. Water is taken from Thompson Gulch during flow in the springs and during rains. Terraces have been built on the slopes above the gulch to hold the snow. Chappell owns five claims, namely Discovery and One Above Discovery on Nolan, Double L Bench on Faye, and two bench claims on Thompson's Gulch.

A large quartz veins was examined on the top of the ridge above Thompson's Gulch. This vein strikes north-south and dips steeply to the east. The quartz is highly crystalline, milky white in color and contains a few sparce sulphides of pyrite, arsenopyrite and stibnite. The greater portion of the vein is barren and no samples for assay were takem. This vein is traceable for over a mile and has a width up to fifty feet. It is possible along veins of this type to find concentrations of sulphides in re-openings. Some future prospecting may be warrented.

August 17 Nolan Creek to Vermont Creek, tributary of Hammon River.

E. Nesland and P. W. White started a bulldozer-hydraulic operation this season on Vermont Creek, tributary of the Hamon River, twelve miles northwest of Wiseman. Operations began May first of this year and to date one small cut has been mined. This cut measured 40 x 50 feet and produced forty two ounces of gold. This creek has been worked by ground sluice and shovel-in methods in former years. Some virgin ground still exists as side pay. This pay together with the gold remaining in the worked gravels was reported as pay. The pay extends from the mouth of Vermont Creek, one mile to the mouth of West Fork, and thence up West Fork for another mile. For a short distance up West Fork from the mouth, the original pay averaged twelve hundred dollars per box length.

This season considerable time was consumed in bulldozing a bedrock drain to the present site of mining, one half mile up from the mouth. The creek has a four percent grade, which accounts for so much side pay left, since tailing had to be dumped on virgin ground. Mining is done by bulldozing the gravels to infront of the boxes, thence a low pressure nozzle and a volume of sluice water carries the material through the boxes. A dirt dam was constructed with bulldozer above the mining site, and this furnishes water for the hydraulic and the overflow is used as sluice water.

The pay ground on Vermont Creek is owned by S. Wanamaker and consists of four claims, Nesland and White have staked the ground on West Fork, the largest tributary of Vermont Creek. Only two men and their wives are employed on this operations KK 30-32

Charles Nelson is prospecting for bench ground along Hamon River. He states that the entire river is held by old estates, whom will not lease nor do assessment work.

Mrs. Blanche Cascaden of Fairbanks holds four placer claims and two fractional claims on Emma Creek. located eight miles below Wiseman. Her claims consist of Discovery, Discovery Bench, No. 1 Below Discovery, High and Dry Bench Claim, a fractional bench claim ( 210 x 400 x 450') adjacent to Claim No.1 Below Discovery, and a fractional bench claim ( 225 x 830') adjacent to Discovery Bench Claim. Victor Neck owns claims both above and below the Cascaden ground. The Brody Estate holds four claims above the canyon on Emma Creek. KK 30-7

Mrs. Cascaden asked for an examination of her property, since she wishes to sell or lease. Time did not permit this examination. However while flying over Emma Creek, the writer noted several short steep creeks converging to form Emma Creek above a steep walled canyon. A sill of granite occurs on the divide and at the head of several of these small creeks. These creeks above the canyon appeared to short and steep as well as small to contain much pay. At the junction of these creeks on a small flat at the head of the canyon, there may be a small area of pay. The

canyon itself appears to be steep and lacks extensive gravels, however there may be pay confined to the bedrock and under the large boulders. On the small flat at the mouth of the canyon, the early discovery was made. The greater portion of this flat was reported worked in the early days of the district. The low benches of the sides of this flat may contain a workable pay. Some old drifts were reported made into these benches, however there were no extensive dumps. Two claim lengths below Discovery, Emma Creek merges onto the Koyukuk Valley, where valley glacial action was much in evidence. Very little can be determined without extensive drilling in regard to the extent of the workable pay left on the creek.

August 18. Hamon River to Wiseman to Sheep Creek.

Frank Miller and Sons are operating a bulldozer-hydraulic on Sheep Creek at a point where the creek merges out onto the Koyukuk Valley. Miller holds five claims consisting of Discovery, No.1 Above Discovery, and three claims below Discovery. Sections of this creek were drift mined in earlier days. Some of these drift workings are below the present mining site in deep ground with depths up to one hundred and fifteen feet. In these lower drift workings the pay was reported to average three dollars and fifty cents (old price) per bedrock foot. Miller is mining the present creek bed and along the left limit just above the old lower drift workings, where the bedrock rises steeply from the valley of the Koyukuk into the incised valley of Sheep Creek. Here the gravels are covered with a variable amount of frozen muck. The gravels range from five to six feet in thickness. The pay averages from fifty to seventy-five cents per bedrock foot.

Mining consists of pushing gravels and the under layer of crushed bedrock in front of sluices, where sluice and hydraulic water carries the material through the boxes. Water is brought down Sheep Creek by ditch and impounded in a pond on the right limit above the workings. Miller reports that some mining was formerly done on upper Sheep Creek in shallow ground. He is of the opinion that these gravels and the old drift workings can be re-worked at a profit.

The gold recovered from Sheep Creek is exceptionally bright, and consists mainly of nuggets of both crystalline and rough forms. The gold is confined to two feet of broken mineralized bedrock of shale. This shale is dark in color and contains an abundant amount of iron oxides. The concentrates consist of iorn oxides, pyrite, garnets, phosphate nodules, and broken and crushed quartz. This mixed crushed and broken bedrock appears to have been dumped or slide down unto the lower hard bedrock of light colored shale. It is very probable that the dark shale stratum is from doseby residual deposit. Numerous glacial boulders are found in the upper gravels. Below the workings Sheep Creek flows over the ground moraine in the Koyukuk Valley for two miles, where it joins the Koyukuk.

August 19. Sheep Creek to California Creek, Jim and Wakeup Pups.

KK 31-9

Joe D. Blundell is engaged in preparing for shaft mining on Wakeup Pup, a tributary of California Creek and one fourth of a mile above the mouth of Jim Pup. Last season he was engaged in sinking a shaft, but only reached a depth of sixty feet. This season he intends to resume sinking about November first and thence drift mine until spring. This new shaft is located at the upper end of the Beaver Association Claim.

This property, known as the Hans Christian Estate and locally the Jim Pup Mining Company, consists of twenty six claims. Sixteen are creek claims on Wakeup, Jim Pup and California Creek. Ten are bench claims on Jim and Wakeup Pups. Blundell holds an additional eight claims, four above Discovery and four below Discovery on California Creek.

A new boiler house has been constructed, which contains two 6 H. P. boilers and a small Washington Iron Works steam hoist. This summer season he has completed the boiler house and cut wood for winter use. He expects a good production this season.

The pay has been traced from the mouth of Wakeup Pup on California Creek to and up Jim Pup and above Jim Pup on Wakeup to the present site by former shaft mining. The log of the last shaft two hundred feet below the present one was reported as containing seventy two feet of frozen muck and thirty feet of pay in frozen gravels. Only the lower five to six feet of the pay gravels have been mined from these shafts. The drifts off the shafts extend out in four directions for one hundred feet. Only gravels that average from four to six dollars a yard are mined. The last year of production was 1947, during which Blundell mined 1680 wheel barrow-fuls, which averaged $ 1.25 per wheel barrow. The highest pay lies on bedrock and it is distributed in channels twenty to forty feet in width. The gravels range from medium to fine, and slighly worn to angular. How far the pay will continue up Wakeup Pup is not known. However Lake Creek, which heads from a small lake at the head of Wakeup Pup contains similair pay. The amount of pay gravels left in and above the drift workings on Wakeup and Jim Pups amounts, according to Blundell, to a few millions dollars. These gravels could be easily worked by mechanical means. The frozen muck could be readily thawed by bulldozing the moss and tundra off the top. This moss or tundra contains a high percent of volcanic ash, which acts as a thermal blanket for holding the frost. Once this blanket is removed the frozen muck thaws readily during the summer months. The water from the melting muck could be ponded and used for sluicing, since the muck is eighty to ninty percent ice. Additional water could be pumped from California Creek, which contains a good flow during the summer season. There is known to exist over two miles of pay gravels on California Creek which range in depth from eight to ten feet. These gravels are in the greater part thawed and could be easily worked by mechanical means.

Blundell has a lease on all the Jim Pup Mining Company's holdings. He desires to re-lease to anyone with sufficient means of working on a fairly large mechanized scale. He is preparing a map of all the claims, and showing the extent of the known pay. He will be glad to furnish copies to anyone interested. He can be contacted by mail with address, Big Lake, Via Wiseman, Alaska.

August 20. Wakeup Pup to Lake Creek, Big Lake to Eight Mile Creek, Bettles River.

Fred Pitts has purchased the George Maglass Holdings on Lake Creek, located one and one half miles north of Blundell's workings and across a low divide. Lake Creek empties into Big Lake on the southwest shore. These Maglass Holdings consisted of eleven claims extending from Big Lake to the head. Pitts has staked two claims covering the lake at the head of the creek. Last year Pitts was engaged in prospecting the ground. This season he has installed a small hydraulic plant and ahoist with boom for dragging large rocks and boulders from the pit.

The pay on Lake Creek is confined to benches on the left limit. This pay appears to have worked down the slope of the ridge to the west more or less confined to small channels and bunches on the benches. The gravels average fifteen feet in thickness and are covered with three to four feet of moss and muck. The gravels are unsorted, coarse and angular and contain numerous glacial boulders. One cut had been mined to date of visit, which produced $ 3500 and averaging $ 2.62 per bedrock foot. The largest nuggets weighed slightly over one ounce. Nuggets and fine gold are both recovered, while some of the nuggets are rough and others are smooth. The bedrock has a north-south strike and dips fifteen to twenty degrees east. It consists of a silvery white mica schist and a hard dark gray schist. It is fractured, uneven and very difficult to clean. Two men are employed.

The Blott Brothers are operating a shovel-in and ground sluice operation on Eight Mile Creek, tributary of the Bettles River. They hold fourteen claims, extending from the mouth upstream. AK 31-4

Eight Mile Creek is entrenched in a canyon, which extends from the mouth for one mile upstream. The walls are nearly vertical and extend upward from sixty to seventy feet above the creek level. The pay is confined to the schist bedrock on the floor of the creek, which ranges from thirty to forty feet in width. Gravels cover the floor with an average of two feet in thickness. They consist mainly of coarse material with numerous rocks and some boulders. The pay extends in the soft bedrock to a depth of three feet. This soft bedrock is shoveled and sluiced into boxes. The grade of the creek is seven percent, which allows sufficient grade for the tailings. This season the Bothers are working on Claim No.3 Above Discovery. Considerable magnetite float is found in the concentrates, with pieces up to two feet in diameter common. Native copper and pieces of galena were also noted in the concentrates. Two men are employed.

August 21. Eight Mile Creek to Wiseman.

Pat Savage of Flat is operating a bulldozer-hydraulic on Wild Lakein the upper Koyukuk District. Larry Doheny is in charge of operations. Machinery and supplies were taken overland by caterpillar from Fairbanks early this spring. This season to date work had consisted of mainly preparatory work and testing. Six men are employed.

Andy Scheasdall and T. Ackerson are operating a bulldozer-hydraulic on Crevice Creek, tributary of the John River. This is their first season at this location, and reports were to the effect that poor pay had been encountered. Two men are employed.

Frank Theisen and Ed. Farrell are operating a bulldozer-ground sluice on Suckit Creek, tributary of Timber Creek, tributary of John River. Suckit Creek was worked last year by Frank Bishoff and Theisen. Two men are employed.

The South Fork Mining Company is operating a dragline-bulldozer-hydraulic on Gold Bench on the South Fork of the Koyukuk River, thirty five miles south of Wiseman. One shift is worked with a total of eight men.

Stanish and Stanish are operating a hydraulic plant on Porcupine Creek, eighteen miles south of Wiseman. Two men are employed. They expect to drill on lower Porcupine during the winter months.

Hans Leisman was reported shovelling-in on Rye Creek, tirbutary of Wild River.

Vern Hurst was reported prospecting in the Baby Mountains.

Estates

There are a considerable number of goodpay placer claims, located on Nolan, its tributaries, Hammon River and the Koyukuk River which are held by estates. Several of these estates have become whole or in part property of the Alaska Welfare Department. Numerous complaints were received that leases could not be obtained from the department. Also that in most cases no assessment work has been done, and since they are held by a government agency, the people of the area assume that assessment work is not necessary to hold them. As a result they assume that they cannot be restaked. Joe Ulen of Wiseman, Alaska would like an opinion in this respect. He claims the condition has held up operations in a few instances. Following is the names of four such Estates,

Jack White Estate, Archibald Creek, tributary of Nolan.
Peter Dow Estate, Lower Nolan Creek.
Patrick Kellar Estate, Gold Creek, tributary of Koyukuk River.
Irish Estate, Michigan Creek.

August 22. Wiseman to Fairbanks.