

TERRITORY OF ALASKA
DEPARTMENT OF MINES
COLLEGE, ALASKA

REPORT OF INVESTIGATIONS AND ITINERARY OF J. C. ROEHM,
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MINES IN THE FORTY MILE PRECINCT, ALASKA

July 22 to 30, 1949

SUMMARY

A total of 13 active placer operations were found in the Forty Mile Precinct of Alaska, which consisted of eight bulldozer-hydraulic operations, three hydraulic plant operations, one scraper and hydraulic operation and one dredge.

A total of 42 men are engaged in mining activities in the precinct of which 35 are directly employed in placer mining, six are prospecting and one man in gold lode development.

These totals do not include several employees of the Alaska Road Commission, tourists and others whom were found temporary engaged in panning, staking and prospecting along the newly constructed highway.

Placer mining in the Forty Mile will no doubt be resumed on a larger scale next year due to the completion of the Forty Mile Road and indications pointing towards an improved gold situation. Rumors were to the effect that the U.S.S.R. & M. were planning on building a dredge on their holdings near Chicken next season. Other operators may expand by employing labor with the reduced costs of transportation of oil and supplies.

The source of the gold in the Chicken area appears to have originated from late Tertiary and later, thermal solutions, that permeated the complex jointing structure of the underlying older intrusives into the overlying Tertiary lignite series, now mainly removed. The presence of the free carbon in the lignite series acted as a reducing agent for the gold in solution of the thermal waters. The result has been that placer deposits are being found on slopes near the tops of the ridges in angular broken material with no worn gravels, but associated with oxides, sulphates and carbonates of other metals. Some of these deposits contain workable pay, and are found scattered from the high slopes to the creek beds. The main problem in mining these high deposits will be lack of sufficient water.

The possibility of economic lode deposits is to be found in the joint intersections found in the igneous rocks and within and along the borders of the roof pendants that occur engulfed within the masses of the large intrusives.

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July 22. Fairbanks to Tanacross.

Tanacross 69
John Hajdukovich is prospecting north of the Tanana River in the vicinity and north of Tanacross. He is accompanied by two natives, Jimmy Walters and Mose Thomas.

July 23. Tanacross to Camp Two, Forty Mile Road.

Tanacross 69
At the junction of the Forty Mile Road with the Alcan Highway and at the site of the Forty Mile Road House, coarse crystalline granite occurs and it is to be found for several miles north in the cuts of the Forty Mile Road. Several cuts were examined and samples were taken for the testing of radio-activity. Pegmatite phases were noted in the granite, however no true pegmatite dikes were noted. From Mile 15 to Fairplay Mountain, various kinds of basic lavas were noted. Mt. Fairplay has a central core of coarse gray granite, surrounded by lavas. Five miles north of Mt Fairplay, the formation again changes to granite. This granite extends from this point along the road to the crossing on the Mosquito Fork, two miles west of Chicken. At Mile 70, a four foot hornblendite dike occurs in the granite, striking slightly north of East. This dike shows black borders and contains masses of black hornblende with a small amount of iron pyrite. Samples were taken for testing for radio-activity. The granite in many sections along this road is highly decomposed and breaks down very rapidly. This disintegrated granite makes ideal top dressing material for the roadbed. It packs down readily under traffic and forms a hard smooth surface. The only adverse feature regarding this material for use as the entire roadbed is the fact that the fine material washes away readily when loose.

69
Robert Mc Combe has several placer claims staked on an un-named creek, that heads on the north slope of Mt. Fairplay and flows north crossing the road five miles north of the mountain. This creek has entrenched itself into the lava beds with nearly vertical banks ranging from thirty to forty feet in height. The width of the creek bed ranges from one hundred and fifty feet to over two hundred feet, and it has a low grade at this point. The lavas along the banks are mineralized and show considerable iron oxide staining. Thermal water action was noted within some of the fractures, which may have had as its source the lava magma itself. Mc Combe has a placer drill on the creek and he expects to drill on the creek this winter. If pay is found on this creek, there are several other creeks, heading off from Mt. Fairplay, which may contain pay.

Fairplay 60
Wm. Lubbe and Bert Williams are prospecting on benches and bars on the South Fork of the Forty Mile River, twenty nine miles below Chicken.

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July 24. Camp No. Two to Chicken via Caterpillar.

Yukon Placer Mining Company are operating a bulldozer-hydraulic on Jack Wade Creek. This operation is under the management of Leonard Stamps with five men employed. They were reported bulldozing low benches and recovering considerable amounts of gold.

Yukon Placer Mining Company are operating the dredge on Canyon Creek this season. This operation is under the management of Glen Franklin. Two shifts are worked on the dredge and six men were reported as employed.

Yukon Placer Mining Company were reported as moving their equipment and plant from Walkers Fork to the Sixty Mile River on the Canadian side.

Wm. Meldrum was reported prospecting in the Firth River area, having leased his ground on Chicken Creek to the Franklin Creek Mining Company.

July 25. Chicken to Stonehouse Creek, Chicken Creek and Lost Chicken Hill.

09 Eagle 60
M. J. Atwood and son are operating a bulldozer-hydraulic under the name of Atwood Mining Company on upper Stonehouse Creek. During the periods of good water supply, Mr. Atwood operates a hydraulic plant on Stonehouse Creek, one mile up from the mouth. On the date of visit he was operating a bulldozer-hydraulic on a bench 300 feet above the hydraulic plant on the left limit of Stonehouse Creek. The material on this bench is all slough material consisting of angular gravels, mainly granite slide rock mixed with clay and granite sands. The cut is situated just above the contact of the Tertiary sediments and has an altered granite bedrock. The gold is heavy and fine, very rough and contains a few attached quartz pieces. Similiar gold is found in the creek hydraulic plant, where some worn gravels were noted. There appears to have been a bedrock source of gold higher up on the ridge above the bench cut. Thermal water action in the past is very evident in the bedrock of the cut and in the Tertiary sediments below the cut.

Atwoods method of mining on the bench consists of stripping with bulldozer and thence pushing the material in front of boxes from which it is washed through the boxes with sluice and hydraulic water. He has a bedrock drain and sufficient grade for tailing disposal. Mining and thawing is done in the creek with hydraulic. A shortage of water was evident.

This ridge-side contact of the Tertiary sediments with the underlying older granite and which strikes in a northeasterly direction, apparently is a catchment basin for the gold. This contact may represent a pay channel of considerable length. The mining problem will be shortage of water. The present Chicken-Eagle road survey follows along this bench for some distance.

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George Lysell is operating a hydraulic plant alone on Barge Bench on the left limit of Myers Fork one half mile up from the mouth. The bedrock of the bench consists of altered basalt, which contains numerous veinlets of quartz and mineralized seams. Some of these seams have highly altered walls and appear to have been channels of hot thermal solutions. Lysell is working on the second bench, which contains only three feet of gravel covered with six feet of muck. He hired a bulldozer to take off the muck and works the gravels off the bench into boxes with the aid of a small hydraulic. He reported the pay as averaging forty-two cents per bedrock foot.

Fred and Art Purdy are operating a bulldozer-hydraulic on Myers Fork opposite the Barge Bench. The gravels average six feet in thickness, which are covered with fourteen feet of muck. They have cleaned 10,000 feet of bedrock which averaged forty-five cents per bedrock-foot. Their method of mining is to strip the muck with bulldozer, which allows the gravels to thaw. Hence gravels are worked through boxes with bulldozer and hydraulic.

Costs

Diesel Oil, which was delivered from Fairbanks, costs fifty cents per gallon. Freight of supplies costs from three to four cents per pound. Air freight costs ten cents per pound plus tax.

Franklin Creek Mining Company, under the management of J. H. Bayless, is operating a bulldozer-hydraulic on A. M. Meldrum's ground on Chicken Creek this season. Two cuts have been mined to date at the mouth of Stonehouse Creek. A total of nearly \$20,000 has been recovered. Five men are employed. Two runs of gold occur here, the fine rough gold of Stonehouse Creek and the coarse smooth gold of Chicken Creek. The method of mining consists of bulldozing off the top muck and top gravels and thence using hydraulic and bulldozer to move material through steel boxes. Tailings are stacked with bulldozer. The bedrock is basalt and altered on the surface to allow good cleaning with bulldozer blade.

Costs

The company hauls its own diesel oil during the winter from Valdez and the total cost amounts to thirty-two cents per gallon. Freight from Valdez cost on an average of ten cents per ton mile. This amounts to \$ 45.00 per ton. This cost will be somewhat lower with the completion of the Forty Mile Road to Chicken.

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Fred Whitehead is operating a bulldozer-hydraulic on Chicken Creek below the mouth of Stonehouse. This season he has been stripping the right limit bench and expects to mine one cut. The muck on the bench ranges from twelve to thirty seven feet in thickness. This muck is underlaid with six to seven feet of sand. The gravel range from two to three feet. The bedrock is altered basalt and easily cleaned. After the muck and sand are stripped, the gravel is bulldozed in front of boxes and thence hydrauliced through boxes. He sets the boxes on bedrock and bulldozes tailings. He operates a T. D. 18 International Bulldozer and a 8x10" Allis Chalmers pump powered with D 13,000 Caterpillar. Steel boxes and angle iron hungarian riffles are used. Mr. Whitehead owns claims Nos. 1 and 2 Below Discovery on Chicken Creek. He claims that if he hired labor, his operation would not pay.

Lost Chicken Creek Mining Company is operating a bulldozer-hydraulic on Lost Chicken Hill under the direction of Mr. Pierre. Henry Van Hook of Fairbanks owns twenty claims on this hill and extending down Lost Chicken Creek. The company is working old drifted ground which is covered with twenty feet of frozen muck and contains fifteen feet of fine gravels. The bedrock of this deposit consists of a highly altered dioritic igneous rock, which has become decomposed by thermal water action. The site of the present workings is near the summit of the divide between Lost Chicken and Chicken Creeks. This location is one mile east of Chicken. The bedrock here flattens off and due to the fact that a bedrock drain has not been extended to the present workings, the company is experiencing considerable difficulty in draining their present cut.

Mining consists of bulldozing the gravels to boxes set on bedrock and running through with hydraulic and sluice water. The tailings are bulldozed. A shortage of water usually exists, however this year considerable thaw and seepage water is available. Considerable thawing has been done this season, but mining has been retarded by water in the cut. This is the first season for this company.

July 26 Chicken to Engle Creek, Tributary of Mosquito Fork.

Ed. Johnassen is mining on a high bench with a small hydraulic plant and operating a sluicing plant in Engle Creek, one and one half miles above its mouth. This season work has been confined to the bench ground 300 feet above the creek level. The material on this bench is mixed angular gravel or slide rock with clay which ranges in thickness from six to seventeen feet. It is thawed in spots and lacks the usual muck coverings. The material appears to be hillside slough

Engle Co

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resting upon a much altered dioritic bedrock. The gold is heavy and shotty and occurs both in the sloughed material and the altered bedrock. The ground was reported as averaging fifty cents per bedrock foot old price of gold. Pannings from the bedrock at the bottom of the cut showed good values. This gold appears to have been deposited in this material along the hillside from hot thermal waters percolating from above. Channel gravels and evidence of former channels are lacking. There appears to be an abundance of rough quartz pieces, but these are barren of mineralization. Apparently there is a vein source higher up on this ridge. Scheelite also occurs with the gold. Mining is limited to catch runoff water.

Eagle 60
^{Dan}
~~Fred~~ Manske is operating a bulldozer-hydraulic plant at the mouth of Angle Creek, a tributary of the Mosquito Fork, five miles above Chicken. Manske claims to have drilled this deposit, which consists of an alluvial fan, 400 feet in width and nearly 2000 feet in length. The pay in this deposit is in part a concentration by the Mosquito Fork on a bench level and in part by dumping from Angle Creek. The pay was reported as averaging sixty cents per bedrock foot with depths of gravel ranging from five to twenty feet of which three to five feet is muck. His method of mining consists of stripping the muck with bulldozer, thence bulldozing the gravel in front of the boxes and thence using both sluice and hydraulic water to move the material through the boxes. Water is pumped for the hydraulic a distance of 800 feet from the Mosquito Fork and the small amount of water from Angle Creek is used as sluice water. Tailings are stacked with bulldozer. This is Manske's first season and he has picked the bed of Angle Creek for his first cut in the shallowest portion. He lacks sufficient equipment to properly mine the deposit and wishes to lease. The U.S.S.R. & M. company has offered him five percent royalty, however he desires ten percent.

60-84
60-62
Manske has three lode claims staked on copper showings on Ketchumstock Creek. He also has lode claims staked in the My Creek section, which includes the reported pitchblende vein. A vein containing galena was reported associated with the pitchblende, which was traced over three claim lengths. A four foot vein of quartz also in this section was reported to have given returns of twenty-five dollars in gold. These veins were reported as along the slopes of a large granitic mountain at the head of My Creek. On this slope there was reported a contact between limestone and the granite, also some chert was reported contained in the limestone. Molybdenite and chromite was also reported by Manske as being observed in the vicinity. Manske intends after freeze-up to take a bulldozer into this section and bulldoze these veins in order to get their widths and obtain correct samples. The writer had made tentative plans to accompany him on this trip.

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The U.S.G.S. learned of the reported pitchblende showing and have been busy flying in and out from the area with Army helicopter. Manske reported that the survey has asked him to fly in with them and give the location of the showings.

The Charley River batholith appears from information learned and from distant observations to be a large granitic mass, which contains numerous roof pendants containing limestone and other sediments. These pendants are highly mineralized, mainly with contact metamorphic types of deposits; but also show evidence of contained replacement deposits. These later type of deposits may be of economic importance. Apparently the My Creek section contains one or more of these pendants. One of the important features will be to determine the age of the mineralization contained in these pendants. The Goodpaster district borders and probably is to be included within this Charley River batholith. Here Tertiary mineralization was found contained in structural weaknesses of older intrusives. The entire area from the Goodpaster District on the west to the Forty Mile area on the east and including a good part of the latter, warrants considerable geological investigation.

Frank Barret is trenching on a new quartz vein, which he discovered, and which represents a cross-vein in relation to the old Cameron veins. He holds together with the Paul Glasgow Estate four lode claims, known as the Lucky Strike Group and namely the Lucky Strike Nos. 1 and 2, the Basin and Summit claims. The group is located three and one half miles due west of Chicken along the north bank of the Mosquito Fork. A short history, the geology of the section, and the development is given in, "Summary Report of Mining Investigations in the Fairbanks, Forty Mile, Knik and Kenai Precincts." Sept. 1, to 30 Inclusive 1939, Pages 7 & 8. A series of veins, known as the A, B, C, D, & E, are parallel veins striking N. 60 to 70° West with dips ranging from 75 to 80° N. E. These are known as the old Cameron Series, and upon which there has been several short adits driven and numerous cuts dug. The adits are all inaccessible and the cuts more or less filled. The structure appears to be a series parallel fractures probably originally caused by jointing and later developed into a shear with slight movement. The walls of the fractures are decomposed, mineralized and contain both a milky dense type of quartz and a clear vuggy type. Gold values are highly scattered along the veins, but usually confined to the sections showing the greatest amount of clear quartz and altered bedrock. The formation is a granitic type with more or less of a dioritic phase, capped on or near the top of the bank with remnants of pre-existing Tertiary sediments and unconsolidated gravels, sand and clay.

The new vein discovered on the Lucky Strike No. 2 claim is exposed up and down the cut bank of the Mosquito Fork by trenches for a distance of 250 feet. The strike is N. 32° West and the dip is 78 to 82° south. It has an average width of four feet, except near the top of the bank, where sloughing has broken the vein and caused a slight displacement.

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Barret has the vein exposed with a short adit, ten feet in length and eight open-cuts between the elevations of 2200 to 2360 feet. The vein appears as a fault zone, is banded and contains a mixture of quartz with decomposed rock minerals. Free gold can be obtained by panning the soft material from the seams. A channel sample, J. C. R. 1406 taken across four feet of the vein material in No. 2 cut, note position on sketch, gave returns of \$2.80 in gold and trace of silver. While this vein is similar in character to the parallel series of veins, it does however traverse this series on its projection to the east. At a position (Note sketch map) 200 feet below the lower trench and 30 feet above the river level, this vein intersects the first vein of the parallel series. This intersection is covered, but a slight displacement shows on the surface. The small section contains abundant iron oxides and the surrounding wall rock is highly disintegrated. The writer advised Barret to open up this intersection from below, as there is a possibility for an ore shoot and better values. Barret has done considerable hard work in his trenching and prospecting and is to be highly commended.

The minerals that occur in the vein are pyrite, arsenopyrite, and free gold together with oxides and a slight copper stain. The gangue minerals are quartz, altered feldspar, talc altered ferro-magnesium minerals.

Thermal water action is very evident along sections of these veins, and veins of this type may have been the source of the placer gold in the area. The waters from the veins appear to have penetrated into the Tertiary sediments and coal measured, which exist at the present time above the igneous complex as scattered remnants. While no important ore shoot has become definitely known to date, their existence is very probable and further development is recommended.

R. A. Brown is operating a bulldozer-hydraulic on Uhler Creek. This operation was reported as employing three men.

Vern Weaver and John Davis are installing a drag scraper on Atwater Bay of the Forty Mile River, five miles east of Chicken. The scraper is to be operated by a double drum hoist with cables extended across the river. The scraper is to drag gravels from the river bed and from the edge of the bar, and dump into a hopper which feeds the sluice boxes. Sluice water is to be pumped from the river. This is the first season for this operation and no mining has been done to date. The bar and river gravels have not been tested, but pay is assumed because of the reported activities of the early days. The operation has four men employed.

Should this operation encounter pay in the form

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60-39
of sunken or covered bar pay streaks, similiar bars would possibly exist on other of the old pay bars. Testing of these bars at depth has never been thoroughly done due to water.

John Ostogard was reported as hydraulicing and sniping on *60-39*
Napolean Creek.