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SUMMARY REPORT OF MINING INVESTIGATIONS
IN THE KENAI PRECINCT
July 9 to July 15, 1941
By
J. C. ROEHM

July 9. Anchorage to Seward.

Mining operations in the Girdwood district were reported as being inactive this season. The idle properties are the Crow Creek Mine, and the Erickson and Lindblad placers. Reports were to the effect that the Monarch and Jewel properties of the Crow Creek Mining Company were to be offered for sale this summer by the Staser estate.

July 10. Seward to Hope.

Louis Shell was reported hydraulicking on Bear Creek, 4 miles east of Hope, with two men employed.

The St. Louis Mining Company, under the management of Earl Clarke, started operations on May 1 with one shift and six men employed. In June a flood washed out the boxes and operations were suspended for the year. A total of 252 ounces of gold was reported to have been recovered.

Pete Sorensen & Company was reported hydraulicking one shift on Resurrection Creek with five men employed.

Schofield and partner were ground sluicing on Cripple Creek. A small hoist was being used for boulders. Considerable prospecting was carried out during the season.

July 11-12. The New Hope Mining Company, under the direction of E. Swetman, purchased the Hirshey Mine. The camp facilities at the New Hope were destroyed by a snow slide a year ago, and at the present time the camp at Hirshey is being used. Development work to the extent of one shift, which consists of drifting north in the New Hope, is being carried on.

Four men have been actively engaged in development work at the Gold Mint Mine on Palmer Creek under the direction of Iver Nearhouse. A new camp, consisting of a 14x18' plywood bunk house and 4'x18' shed alongside, has been constructed on a new site below the working tunnel. A horse trail was completed to this site, and one horse is used to transport supplies. Development in the tunnel consisted of 200 feet of drifting on the vein to the west. At the end a small slip fault was encountered and the vein lost. The quartz vein gradually became narrower to the west, ranging from 20 inches down to 2 inches. Four short quartz

lenses averaging 20 feet in length were encountered in the 200 feet of drift. Assay values, as taken by Nearhouse at five-foot intervals, ranged from traces to over $50 in gold and silver per ton. (Note Plate No. 2 showing samples and assays.) A surface sketch map (Note Plate No. 1) shows most of the outcrops and workings of the Gold Mint group. The faults encountered in the tunnel were located on the surface. The displacement of the vein to the west in the west drift was found to be only a few feet on the surface. The amount of displacement of the vein at the end of the east drift was not determined due to talus covering.

The surface showings, other than the Gold Mint vein, consist of small quartz showings exposed in various cuts and outcrops. Some occupy small folds in the slates, others are on the walls of green aplite dikes. All are small and lack structure. Some show considerable free gold in the oxidized quartz of the surface. The intrusive stock, which has been reported by Nearhouse to the southwest in the valley head near the top, was snow covered. The float from this intrusive, however, is aplite, and due to the small surface area which this stock occupies, the outcrop is believed to be a dike rock outcrop rather than an intrusive stock. The structure of the slate and graywacke in this section is highly folded. The structure, on which the veins occur, is related to the folding and classified as a minor rather than a major structure.

July 13. The J. W. Downing property, which consists of five claims; namely, the Whistler, Francisco, Bonanza, Last Chance and Mt. View, is located on the left limit of Bonanza Creek, one-half mile above its junction with Palmer Creek. Bonanza Creek is one and a half miles above the Gold Mint prospect and nine miles via road from Hope. A cabin on the Last Chance claim along the road at an elevation of 1650 feet is the only building on the property. A trail leads up the left limit of Bonanza Creek to the lower cut, a distance of one-half mile, and to an elevation of 2,000 feet. (Note Plate No. 3). The Francisco, Whistler and Bonanza claims were located by Mr. Downing in 1921. The Mt. View and Last Chance were located later. Assessment work has been performed yearly on the group.

Geology and Showings:

The showings on the Downing property consist of numerous quartz outcrops of short irregular veins exposed along a strong shear zone in slate in close proximity to a slate-graywacke contact. The shear zone strikes N. 10° E. and has a steep dip of 75 to 80° N. This strike conforms to the general strike of the sediments, which are more or less folded and not consistent in strike. The shear is exposed beginning in No. 1 cut, elevation 2,000 feet, and up the side of the ridge to nearly the top, a distance of 600 feet. Numerous small quartz stringers are exposed in the cuts and along the footwall of the shear. These stringers strike at nearly right angles to the shear. Occasionally a small quartz vein follows the schistosity of the slates in a zone several feet in width. This zone is highly mineralized and decomposed, the latter caused by pressure and decomposition by solutions.

The No. 1 or lower cut, elevation 2,000 feet, shows numerous small quartz stringers cutting the schistosity and one 12-inch stringer located in the end of the cut. The slates are highly altered and mineralized in this cut. Sample No. 925, which consisted of the fine mineralized material gathered off the dump, gave only a trace of gold and nil in silver per ton. Sample No. 926 was taken across 10 feet of altered material and several of the small quartz stringers. This sample gave results of 0.02 ounces of gold per ton and a trace of silver.

Cut No. 2 is located 150 feet above cut No. 1 at an elevation of 2,080 feet. The main cut is 50 feet in length and lies at right angles to the shear. One quartz vein is exposed in the cut for a distance of 30 feet. This vein averages 18 inches in width, cuts the schistosity of the slates, and represents a tension fracture formed by movement along the shear walls. There are numerous small stringers of quartz scattered throughout the highly decomposed and altered slates. Manganese oxides and lead carbonates were noted in this cut associated with the abundant iron oxides. Sample 922 (Note sketch of cut #2, Plate No. 3) was taken across 10 feet of the oxidized material. Results of 0.02 ounces of gold per ton and a trace of silver were received from this sample. Sample 923 was a sample of the oxidized material along the side of the cut. This sample gave returns of a trace of gold, nil in silver, traces of lead and manganese. Sample 924 was taken across 7 feet of altered slates and quartz stringers. This sample gave results of a trace in gold and silver per ton.

Above cut No. 2 at an elevation of 2,320 feet a small quartz vein is exposed for 100 feet. This vein follows the schistosity of the slates which strike due north and south. The dip is nearly vertical and the vein ranges in width a few inches to 2 feet. On the north end a tunnel 55 feet in length has been driven on the vein. On the west wall of the tunnel the country rock is fractured graywacke and on the south wall numerous cross stringers occur in the schisted slates. In the tunnel the vein ranges in width from 3 inches to 2 feet. Several cuts above the tunnel also expose the vein, however, the strike becomes irregular and folding is evident. This vein cuts across the other cross stringers and was apparently formed later than the other quartz showings. Several cuts in the vicinity of the tunnel show several of the cross stringers and irregular quartz masses. Several of these irregular showings contain small massive bunches of arsenopyrite contained in them, along with pyrite and iron oxides. The small tunnel vein is well mineralized with pyrite, arsenopyrite, galena, sphalerite and free gold. The gangue consists of a milky white quartz, calcite, graphite, and altered slate mineral. Contained in the veins are numerous vugs lined with fine quartz crystals.

The following samples were taken in cuts above the tunnel, in the tunnel and in the dump: Sample 917 was taken in a new cut 100 feet above the tunnel, elevation 2,360 feet, across 3 feet of quartz and mineralized slate wall. The results obtained were traces in gold and silver per ton. Sample 918 consisted of massive pieces of arsenopyrite

found in a cut, elevation 2,350 feet, or a few feet below sample 917. This gave results of 0.10 ounces of gold per ton and a trace of silver. Sample 919 was a collection of various quartz pieces from the tunnel dump, elevation 2,320 feet. The assay results were 0.84 ounces of gold and 1.02 ounces of silver per ton. Sample 920 was taken across 2 feet in the face of the tunnel, which consisted of banded quartz. Results obtained were 0.16 ounces of gold per ton and a trace of silver. Sample 921 was taken from the top of the tunnel across 6 inches at a point 20 feet in from the portal. High assay results of 4.30 ounces of gold and 2.58 ounces of silver per ton were received.

Due to the high gold and silver values of this tunnel vein, more development, particularly in depth, on this small vein is recommended. This vein may develop into an ore lens which may be of minable quality and quantity.

July 14. Hope to Mile 45, Moose Pass-Hope Highway.

Wm. Lehman has been engaged in prospecting Mike Conley's placer holdings opposite Mile 66, Moose Pass Highway, on Six Mile Creek. This property consists of 32 placer claims. The McCann holdings of 12 placer claims, located above Conley's holdings, were also leased by Lehman. On date of visit Lehman was engaged in prospecting a cut on the right limit of Six Mile Creek at Mile 63 opposite the McCann cabin. McCann started to mine this cut last year and had piped in water through 1,000 feet of hydraulic pipe from a small creek on the left limit of Six Mile Creek. This pipe line furnished water for two giants which have 2-inch nozzles. The cut on date of visit was 70 feet long into a 20-foot bank of gravel and down to bedrock which was 10 feet above the present water level of Six Mile Creek. The bedrock is slate, which has been worn very smooth, but is very uneven. A coarse, slightly packed gravel, 2 feet thick, overlies the bedrock. Thence there are 4 to 6 inches of a fine clayish sediment, thence 12 to 18 feet of coarse loose gravels. In the upper gravels numerous worn greenstone boulders were noted. The gold was reported as mixed through the entire thickness of gravels. The greater portion of this gold is fine, rough, and flat. Some of the finer gold floats while being panned. The larger pieces obtained in this cut were valued at 50 cents. The concentrate consisted of considerable black sand, iron sulphides, quartz crystals and small garnets. One giant was being used to cut the gravel bank and one for forcing the gravel through the boxes. Forty feet of 15-inch boxes was being used with pole riffles and 3/8" mesh screen under the poles.

Mr. Lehman's plans are to spend the summer testing the two properties, and if results prove encouraging, to form a company this fall and work with machinery next season.

J. D. Shields and two associates are starting a new placer operation at the junction of Canyon Creek and East Fork on the left limit of Six Mile Creek. This is on the J. R. No.2 placer claim held by the Kenai Gold Dredging Company. This location is at Mile 58½, Moose Pass-Hope Highway. This operation, which was nearly ready to begin on date of visit, will consist of a steam shovel to be used in moving gravel from a 25-foot bank into 4-foot boxes set along the river edge and slightly above the water. A Bagley scraper operated off a cable line attached across the river, and operated by a Skagit double drum hoist, the latter run by a Fordson gas engine, is to be used to scrape tailings away from the end of the boxes into the river. The first venture this summer is to determine the recovery values in these bank gravels, and to mine a strip 800 feet long and 200 feet wide to water level, a depth of 25 feet. The gold was reported as very fine and distributed through the entire depth of the gravels and averaged 50 cents per yard. Mr. Norman Stinnes was reported as interested in this operation, and should this prove worth while, the Kenai gold property is again to be promoted and a dredge constructed. A drill hole located 400 feet below the site of this operation on the same limit was drilled by Mr. Stinnes during the summer season of 1940. This hole was reported drilled with a Keystone 6-inch drill to bedrock, a depth of 168 feet. The bedrock was reported to be slate and good gold values were encountered. The block of gravel mentioned above, as exposed along Six Mile River, shows 6 feet of medium sized bluish colored gravels exposed above the water. These are overlain by 4 feet of medium sized yellowish gravel, which is in turn covered with 10-15 feet of coarse gravel. Values were reported distributed through the three different gravel strata. Water for the sluice boxes is obtained from Canyon Creek with a dam 800 feet above and a ditch, which gives 8 to 9 feet of fall. The Erie steam shovel has a 7/8-yard bucket and is capable of handling 100 yards per hour. Wooden 4-foot boxes set at a grade of 9 inches to 12 feet, with staggered pole and Hungarian type riffles made of rails, make up the sluices. One shift consisting of three men is to be worked.

Oscar Dahl is hydraulicking on the left limit bench of Canyon Creek opposite Mile 52. He is using two giants, one for tailings, and the other to force gravel into the boxes. He is working one shift with three men employed.

George Lindsley has been operating the Oracle mine all season with three men. His intentions are to take over the Oracle mine and drift on the mill level under his upper workings on the Oracle Extension claims. This would give a back of 200 feet on his own ore bodies and make the ore more accessible for milling. Further plans are to purchase a loco for hauling and a mucking machine. This season 60 tons of ore was mined from the old Oracle stopes and several tons from the lower tunnel level of the Oracle Extension claim above. The ore in this level varies from 6 inches to 18 inches in width, and has been stoped up 20 feet. In the upper levels of the Oracle Extension claim, or Lindsley workings, there is reported to be a small tonnage of thirty dollar per ton ore.

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A higher grade ore is selected for milling under the present conditions, but upon completion of the underground workings the thirty dollar per ton ore is to be milled. The mill is operated one shift. Three small Denver Equipment flotation cells have been added to the circuit and a much better gold recovery was reported. Lack of supplies, high costs and difficulty in obtaining good labor were the reasons given for operation on the present small scale.

The operation of the United Mining & Development Company is located at the old Gilpatrick property one mile north of the Moose Pass-Hope Highway at Mile 44. Operations were resumed on March 26 of this season with one shift in the mine. June 3 the mill resumed operations and 120 tons of ore was milled during a period of 29 days. A total of seven men have been employed, five of which were in the mine and two in the mill. Underground development to date this season consisted of 170 feet of drift and some stoping. Development work has been confined to No. 2 tunnel, elevation 3300 feet. This tunnel, driven along the Gilpatrick dike, has a length of 470 feet. A raise 230 feet in from the portal extends to No. 3 tunnel above. The ore mined and milled by this company has been from a small ore shoot between No. 2 and No. 3 tunnels. Two small crosscuts, one 40 feet and one 20 feet, with drift, raise and stope, make up the workings on this level. Descriptions of the other tunnels and the geology are contained in U. S. Geological Survey bulletin 849-I by Tuck.* On date of visit the ore and dike both were lost in the end of No. 2 tunnel. Since an offset of 60 feet is shown on the surface of the dike, due to an S fold rather than fault displacement, a crosscut into the footwall near the face of the tunnel has been started. The ore bodies occur as curved lenses alongside the Gilpatrick dike and in south plunging structures formed by the S folding of the dike in the slate graywacke sediments.

The mill has been nearly completely refurnished since its original construction two years ago. Two Fairbanks Morse diesel engines, one 25 H. P. and the other 15 H. P., furnish power via belt to the main shaft line. The ore is trammed from the mine to the mill via a 3,000-foot aerial gravity tram with 7/8" cable, 5/8" carrier cable and 700-lb. buckets. Thence it is dumped into a 26-ton ore bin which feeds a 9"x12" Denver crusher with fines passing through a 1/2" rod grizzly to a 65-ton ore bin below. From this ore bin a Gibson rotary feeder supplies material for the 25-ton Denver Equipment ball mill. The mill grinds to 40-mesh and the flow is pumped with a centrifugal Denver sand pump to a Denver Equipment jig located above the ball mill in which 70 per cent of the gold is recovered in a concentrate which is amalgamated in an amalgam barrel. The oversize from the mill is fed to a Denver Equipment rake type classifier with overflow passing over a 30"x6' plate and oversize returning to mill circuit. The overflow from the jig passes over a 30"x5' plate and into the classifier.

*Tuck, R., U. S. Geol. Survey Bull. 849-I, "The Moose Pass-Hope District, Kenai Peninsula, Alaska," pp. 512-514.

Other equipment owned by the corporation consists of a Gardner-Denver 2-cylinder vertical compressor run by a 25 H. P. Continental gas engine, air receiver, dry stoper, jackhammer and wet I. R. hammer. A small well equipped assay office is maintained in a separate building at the camp site below the mill. A small blacksmith shop and retorting facilities are maintained. A small electric light plant furnishes light for the camp.

July 15. The newly organized Falls Creek Mining Company has been engaged in development work since June 5 of this season. This company holds fourteen claims; namely, Discovery No. 1 to No. 9, inclusive, which include the old Greek property, and the Falls Creek No. 1 to No. 5, which include the Skeen-Lechner workings. These are adjoining properties, located 4 miles east and south by caterpillar road from Mile 25, Moose Pass Highway. Both properties were active following their discovery from 1905 to 1912. The Greek property was operated as the California-Alaska Mining Company and operated the first stamp mill on Kenai Peninsula in 1911. Later the ore was furnished from the Skeen-lechner, however, neither operation was very successful. Detailed accounts of these operations and a description of the workings are given in bulletin 587.*

The Greek property was purchased by Wyman Anderson in 1934 from Fred Miller and Elmer MacNamee. It has since been held by Anderson, who incorporated this property and the newly acquired Skeen-lechner into the Falls Creek Mining Company. The Skeen-lechner holdings were acquired by relocation. The Skeen-lechner workings were not examined, as the tunnels were reported blocked near the portal.

The showings of the Greek property consist of a quartz vein which is exposed at the surface on both banks of Falls Creek at an elevation of 2,170 feet. On the south bank the vein is exposed for a distance of 50 feet. A 10-foot shaft follows the vein down. Five feet southwest of the shaft the vein has apparently been faulted as it does not show in the cuts to the southwest. The vein strikes N. 50° E. and dips from vertical to 80° S. On the north bank the vein is exposed only a few feet along the creek bank. At this point the upper tunnel was driven on the vein for a distance of 75 feet. At the northeast end the vein splits into three small veins and apparently terminates. Twenty feet back from the face a 40-foot winze was sunk on the vein. At the bottom of this winze the vein was reported to have been followed by drift for a distance of 140 feet to the southwest. The lower drift and winze were flooded on date of visit. The vein ranges in width from a few inches to 4 feet. The over-all known length of the vein is 180 feet. (Note Plate No. 4).

*Martin, G. C. et al., U. S. Geol. Survey Bull. 587, "Kenai Peninsula, Alaska," pp. 151-157.

The Falls or lower tunnel, located 270 feet below and vertically 65 feet lower than the upper tunnel, consists of a crosscut tunnel, for the first 200 feet following the strike of the slate and graywacke formation N. 3° E. Thence the drift was turned northeasterly and has been driven to date an additional 210 feet. At a point 50 feet past the turn a fault zone with several inches of gouge was followed for a distance of 130 feet. Thence a crosscut 30 feet to the southeast cut another fault zone which contains 4 inches of bluish quartz. This quartz was mineralized with a few crystals of pyrite and pyrrhotite. The present face of this lower tunnel lacks 30 to 40 feet of cutting the vein and being directly under the southwest end of the old upper tunnel workings. However, since the vein is faulted on the surface a short distance southwest of the shaft, it is undeterminable as to just the position of the vein in this section underground. Little is known as to conditions in the lower level of the upper tunnel workings. They would be vertically 25 feet above the lower tunnel level. This flooded drift level was reported to be on the vein, which averaged in width from 3 to 4 feet, and to have contained economic values in gold. (Note Plate 5 showing underground workings). Thus it was the object of this present development to continue the Falls tunnel to the vein, thence connect and drain the flooded workings and mine and mill the remaining ore. However, the faulted condition which is known to exist, and about which very little is known, makes a very uncertain condition.

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The Falls Creek Mining Company was incorporated in the State of Washington in the year 1938. S. A. Liening of 1715 Second Street, W., Seattle, is president and general manager. Wyman Anderson is superintendent. The company is capitalized at 250,000 dollars consisting of two and a half million shares at a par value of 10 cents.

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The machinery on the property consists of a Sullivan portable compressor, 300 cu. ft. capacity, run by a Budda engine, an Ingersoll Rand steel sharpener, Gardner Denver stoper, Caterpillar tractor (which is rented only). Parts of the old stamp mill are still usable, however, it is mainly obsolete. One bunk house and two sheds comprise the buildings.

If ore is encountered this fall it is to be shipped to the smelter. If found in sufficient amounts a mill is to be purchased. Development is to be continued until late fall.