

IR 195-18

SUMMARY REPORT OF MINING INVESTIGATIONS IN THE BRISTOL
 BAY, BETHEL AND OTTER PRECINCTS TO B. D. STEWART,
 COMMISSIONER OF MINES, JUNEAU, ALASKA AND
 ITINERARY OF J. C. ROEHM, ASSOCIATE ENGINEER, TERRITORIAL
 DEPARTMENT OF MINES
 August 1-31, 1937.

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 August 1-4: The Arolic River area is the scene of considerable staking and prospecting. Due to the fact that this area is only in the prospecting stage, and this is being done with hand operations, which are widely scattered, it was not visited. The Goodnews Bay Mining Company has leased 41 continuous claims on the Arolic between Keno and Boulder creeks. This ground is to be drilled later this season. The problem of taking a large drill onto this ground is still a problem with them. Mosness, Strandberg & Sons have leased 51 claims on Snow Gulch, lower Faro, Keno and Fox creeks. David Strandberg solved the problem of transportation by taking a Bucyrus, 6-inch drill over a route, picked by himself, from the north side of Goodnews Bay, following gravel ridges along the foothills of the mountains into the Arolic basin. This drill and all equipment was moved with a caterpillar tractor and the route has advantages in that it affords safe unloading, and keeps clear of swamps, impassible during the summer season. Later reports were to the effect drilling started the 16th of August in Snow Gulch. Prior to this year Mosness, owner of considerable of this ground, took out some gold hand mining on Snow Gulch. The Arolic River may become a future dredging river if sufficient values are found and the bedrock not too deep. It has several gold bearing feeders. Cleudon Company have 45 claims on Trail, Faro, Deer and Kow Kow Creeks. This company is engaged in drilling with a W. Johnson airplane drill. Messrs. Huff & Kendrick have 34 claims on the east and south forks of the Arolic River. Huff has 5 claims on Butte Creek. They are engaged in prospecting. Petellon (Missionary) at Bethel has 21 claims on the Arolic, Minnesota and Faro creeks. These claims are reported to contain good prospects. R. Peterson has 5 claims on Canyon Creek, a tributary of Faro Creek. Garrison & Son were hand drilling on Native Creek, a tributary of Barnum Creek, but obtained negative results.

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 Three drills were still in operation on the ocean side of Red Mountain, south of Platinum. Reports were to the effect that Martin Roslund was obtaining some platinum and gold near the mountain on the northwest side. Roslund is drilling with his own airplane drill (Kirk-Hillman 4-inch) on a group of eight claims paralleling the base of the mountain and away, approximately 2,000 feet. He was drilling his first hole on date of visit and was to a depth of 60 feet. Between the depths of 30 and 40 feet 16 milligrams of platinum was obtained. From 40 to 60 feet 72 milligrams of gold was obtained with a little platinum. This is the best returns reported from twelve holes on this side of the mountain this spring. Only one of the holes reached bedrock at a depth of 110 feet.

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This hole was the only one drilled by Strandberg and the bedrock is the ultra-basic intrusion or Red Mountain formation. It is located nearly a mile from the mountain. Since this small section is buried deeply with fine water-laid gravels of possibly outwash plain origin, there is a possible chance of picking up an old buried beach line containing platinum values. However, it may have been in the direct line of moving ice which formed Goodnews Bay and all prior placer would no doubt be scattered. Nevertheless, it will be of future interest, and a sketch was made, locating drill holes. Also, depths of the holes were obtained and the skeleton logs of same.

Later reports from the Slug River area, or Lower Togiak as it has become generally known, are to the effect that more black beach sands have been found. Some hand mining has started, shoveling into sluice boxes. A few ounces of gold has been recovered and a few milligrams of platinum. This gold is very flaky and was recovered by Pilot Sasseen and a character known as Billy the Finn. Sam Cotton, the promoter, of this area has moved a drill on lower Slug River and drilled to a depth of 132 feet without striking bedrock. KX 123-12

The McRae drill has moved to Rouse Creek, a northern tributary of (Bales Creek as shown on the map) Kinickamute River as known locally. Rouse Creek heads on the southern slope of Susie Mountain, where it is understood J. B. Mertie found a small area of the ultra-basic intrusive or Red Mountain formation. A man named Rouse has the creek staked, and reports have been that he found a small platinum nugget and some pay--not reaching bedrock.

August 5-6: Flew to Bethel where the Northern Commercial Company reports a greater volume of business during the last year than for several years due to mining activities.

The dredging operations of the New York Alaska Gold Dredging Company were visited on the Tuluksak River. The pay gravels on Bear Creek, with the exception of benches, has been worked out. Last winter the camp was moved 4 miles below on the Tuluksak. Here a permanent camp is under construction. Two dredges have been in operation all season and each doing exceedingly well. The small $1\frac{1}{2}$ cu. ft. dredge is working on shallow ground on the right limit and reported taking out nearly a thousand dollars a day. This dredge is located between 6 and 7 miles below the mouth of Bear Creek. The 4 cu. ft. dredge is also on the right limit, 3 miles below Bear Creek. Next season this dredge is to be enlarged into a 6 cu. ft. capacity. Plans are being drawn to construct another 6 cu. ft. dredge in two years providing the price of gold remains and stable economic conditions continue.

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This company's holdings have expanded to a total of 182 claims. Most of these are on the Tuluksak and a considerable portion has been proven dredgable ground with drill lines across the valley over 3,000 feet wide. An old channel was discovered in this valley from the air, and it proved to contain good values. Enough that nearly the entire width of the valley averages dredgable ground. Sixty claims are held on Ophir Creek and this creek is to be drilled next season. At the present time this company has enough ground proved by drill to last the three dredges for 15 years on the Tuluksak.

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Next season the company plans to erect a 1500 H. P. hydro-electric plant from the water of the Tuluksak. This river under the present surveyed plan is capable of developing 6500 H. P. with several miles of ditch and a head of 101 feet. This is all intended to be utilized under the present plan. This information was given by Mr. Crowley and here are his own words as a summary:

"Plans as to future operation are based upon no further taxation.

"A low grade operation.

"A future with present taxation which has delayed plans and operations for two years."

Further, the writer wishes to add, that this operation is modern, efficient and well managed.

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On Tiny Creek, a small tributary of Bear Creek, Clarence Marsh and Getchel are mining with bulldozer, sluicing into boxes from benches. Coarse gold is found.

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Geo. Martin and partner are found sluicing on the right limit of the Tuluksak on a bench 40 feet above the river bed and 6 miles below the mouth of Bear Creek. To date they have taken out 20 ounces of mixed coarse and fine gold.

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John Ald is taking out some money on Spruce Creek, another tributary of Bear Creek, ground sluicing.

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On Marval Creek, south of Bear Creek, Gus Wilson is operating a hydraulic and slip scraper. A \$15,000 clean-up was reported. Later reports were to the effect, he discovered some ground that runs \$7 to the bed-rock foot. Bad weather prevented visiting this operation. 24 91-1

August 8: Return to Bethel and to Al Jones camp on Eek River.

101
August 9-20: The discoveries of last winter reported from Eek River were both old and new. Old workings were restaked on Rainey and Capawun creeks, both being upper tributaries of Eek River. Prospects were found on Eek River. Rainey Creek appears to be the most promising. This creek was discovered by Niel Corrigan in 1920, whom was working by hand methods, and took out \$4500 from two creek claims between the years 1920 and 1924. Later natives mined on a claim above taking out \$600.

Rainey Creek has a length of 6 miles and runs into Eek River on the right limit, approximately 15 miles below the latter's head. Rainey heads near the center of an elongated ridge of low well worn hills. This ridge of hills extends nearly 20 miles in length, starting northwest of Mt. Oratia and extending southwest between Mt. Oratia and a low range to the west. The ridge itself is an anticlinal structure of folded sediments of sandstone, slate, graywacke and some intruded porphyry. This structure appears to have been caused by an intrusion underneath which elevated the sediments. This caused a hardening of the sediments with contact phases and with the great wearing away of the surrounding country, and the ridge remained in its present elongated, elevated position. While the intrusive itself does not apparently show on the surface, it is no doubt present underneath. The wearing down of the sediments and the related porphyry containing the mineralization is probably the source of the placer gold found on these creeks. KX101-25

Good news 101
Al Jones of Anchorage and associates formed the Eek River Mining Company with holdings on Eek River above the mouth of Rainey. Drilling with an airplane drill was in progress prior to the writer's visit to this section. Since negative results were obtained from this drilling, it was the writer's purpose to investigate conditions and give general further prospecting advice to this company. Three holes were drilled between depths of 40 and 60 feet on the right limit of Eek 5 miles above the mouth of Rainey. Bedrock was encountered in the first hole near the bench and not in the later two holes. Small copper nuggets were found and an occasional speck of gold. Outwash glacial gravels were encountered with some blue clay. This region was worn topography prior to glacial times. The ice action was the prominent factor in controlling and altering the present drainage systems. This is very much in evidence on upper Eek River and in the wide valley of Eek River as it flows from the low mountains into the low flat coastal plain. Rainey and upper Capawun creeks missed the ice action and contain placer gravels.

A sketch was made of this section covering Rainey, upper Capawun and the holdings of the Eek River Mining Company on Eek River. The gravels of Rainey Creek were reported to contain values of 25 cents a bedrock foot. The gravels range from 5 to 12 feet deep. Small veins and bunches of realgar and orpiment were found at the head of Rainey. These were reported as cinnabar veins, however, they may contain small amounts, but are not of sufficient size other than mentioning.

Since weather conditions were very adverse, and getting out with plane was impossible, a general survey of the surrounding country was made. The new discoveries by Lapps and natives on the upper Togiak could not be reached due to low fog and extremely bad weather. Natives were found ground sluicing on a new placer discovery on what they call Iron Creek, a tributary of the Kanektok River, located about 15 miles southeast of Kagati Lake and 3 miles west of Nenevrkuk Lake. The latter KX101-11

lake is approximately 10 miles west of the northern end of Togiak Lake. This discovery was made by two natives, Guy Tegylre and Wm. Kesitylia, while searching for the source of a large nugget found years ago by an old native. This discovery had not been seen prior by any white man.

The natives have 20 well staked claims on this creek. It has a length of nearly 10 miles and joins the Kanektok River 5 miles above Kagati Lake. They were mining with two automatic dams at the mouth of two small gulches that flow in from the right limit near the head. The pay is very spotty and low and confined to shallow gravel at the mouth of the gulches. They have taken out about three ounces thus far. To determine the values further, I had them put down several test pits on the main river and at the mouth of other gulches. Only low values were found and not sufficient to warrant hand mining. Approximately one to two cent pans on bedrock were obtained from the best spots. A sketch was made of the upper river. The bedrock is argillites and shales. A 6-inch seam of lignite coal was found along the bank.

These natives reported a 25-foot vein of galena at the head of Atmugluk Creek, a small creek that flows from the northeast into Kagati Lake. They have seven claims known as the Winchester group. Instead of a vein of galena, the showing proved to be two small quartz-stibnite veins about 25 feet apart in a gray, possibly augite granite. A sketch was made and samples were taken as the veins may possibly carry gold values.

In the Canyon Creek area Alfred and Ole Anderson are ground sluicing on a tributary of Forks Creek. Above Herman Oman is ground sluicing on Canyon. The discoveries on Togiak of last year were made on Trail Creek about 5 miles south of Canyon Creek and over the divide on the Togiak River watershed. The first discovery was made by a Lapp, Mathew Spain. He and his son are ground sluicing and have taken out a total of six ounces. Six natives are working below. This creek was reported to be in a box canyon without much gravel and the gold on bedrock beneath large glacial boulders. As a result other small discoveries were made and the Togiak River was staked for several miles down. However, there is no activity this season other than the natives and Lapps.

Gill McIntyre, N. Mellick and Wiseman of Bethel have 43 claims staked on Taylor Creek, a tributary of the Holitna. Last season they drilled 85 holes with a 4-inch airplane drill and report good values. The bedrock was reported as slate and shale and the gravels averaged 8 to 10 feet. Mr. Wiseman has promised to send a copy of the logs of all the holes and detail information.

Lars Tenanes and Jim Johnson were reported operating a scraper and hydraulicking tailings on Willow Creek near Marshal.

(V. Agitt) was reported operating a dragline on the Stuyahok River east of Marshal.

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Goodnews 101

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Mr. & Mrs. Steinhilber 81
Mr. & Mrs. 72

KX101-11

August 20: Return to Bethel.

August 22: Leave Bethel for Flat.

August 23-24: The Golden Horn Mine, located 3 miles east of Flat was examined. This mine is inactive this summer, however, two shipments of ore were made by Gustus Johnson this spring from ore mined last winter. The lower workings were filled with water and inaccessible. However, a surface sketch was made and also of the underground workings. The latter information was furnished by Gustus Johnson, part owner, along with copies of the ore shipments and returns. This mine is inactive due mainly to a disagreement among the owners. There is some remaining ore in the stopes and also reported below the lower level. While the ore occurs on a small vein in monzonite, it is of exceptionally high grade, and the other features which will be reported on later are very interesting. KK 73-30

August 25: Peter Miscovich and Sons are operating a hydraulic lift on Otter Creek, 3 miles east of Flat. This operation is a combination drag-line, hydraulic and bulldozer, moving the gravels to the hydraulic lift of 9 feet and further using bulldozer to move tailings. The ground that is being worked is on the left limit and bench gravels that were formerly mined by drifts. The gravels vary from 18 to 27 feet in depth and the bedrock is blocky monzonite. Last year fifteen hundred thousand feet (?) ~~feet~~ of bedrock was cleaned, and about the same this year is expected. Only \$13,000 has been recovered thus far this season. KK 73-33

In the Otter precinct the summer has been comparatively dry and the later part was very wet and during the dates of visit all operations were very active.

August 26: Olson & Company on Happy Creek are engaged in a large open-cut undertaking with two drag lines. The pay at the head of Happy was found not to be confined to the present stream channel, but a residual deposit of wide width nearly at right angles to the creek, paralleling the slate-monzonite contact. While this ground is mainly frozen and deep, it contains very good values. The ground is being worked systematically and the problem of stacking tailings is another large expense. Mr. Ed Olson is in charge of operations, and this operation has been an expensive undertaking, but apparently a successful one. KK 73-18

The Northwest Development Company on upper Willow Creek is doing very well with a dragline and bulldozer equipment. This year they have cleaned 225,000 feet of bedrock. The gravels are from 8 to 20 feet deep and are fine and no large boulders. This operation is in charge of Axel Palmgren, who is operating very efficiently.

The Iditarod Mining Company is operating on a comparatively large scale, hydraulicking in a large cut with bulldozer and stacking tailings with dragline. The gravels are about 38 feet thick, frozen and covered with 20 feet of black frozen muck. Hydraulic operations are used to thaw and thawed gravels are pushed into bedrock set boxes with bulldozer. This year the company expects to clean up 235,000 feet of bedrock at an average depth of 60 feet. Here again is another huge and expensive operation, and there is some doubt, according to public opinion, as to whether or not it will be successful. Mr. P. T. Jensen is in charge. KX 73-15

Iditarod '33

August 27: The Chicken Creek Mining Company under the supervision of W. F. Dufty is doing exceedingly well. Operation here is with bulldozer into boxes and a repumping of water. The shortage of water has made this operation necessary while during periods of rain small cuts are worked by ground sluicing at the head of Chicken Creek. Boulders are stacked with high line, run by steam power. This company expects to clean 100,000 feet of bedrock this year. Last winter this company did considerable drilling on their holdings on lower Chicken Creek. This was reported as very favorable. D. Kromm has leased these lower claims. He has applied for an R. F. C. loan to buy a dredge for this ground. The pay was reported over a width of 1,000 feet, and the gravels have an average depth of 24 feet. Values obtained were not given. KX 73-6

Capt. Baker is shoveling-in on bench claims on lower Chicken Creek.

Agoff & Soakoff are ground sluicing on Pince Creek, a parallel creek east of Chicken Creek.

The Stuver Brothers are operating a small highline scraper and using splash dams high up on the mountain at the head of Happy Creek. Numerous boulders were reported and the ground about 20 feet deep. This ground was reported averaging 60 cents per bedrock foot.

Charles Yost and Tom Haines are hydraulicking high up on up-grade or head of Flat Creek. Thus far this season 147 ounces have been obtained. They expect to clean up 23,000 feet of bedrock. They have three men working besides themselves. Numerous monzonite boulders and shortage of water has been severe handicaps.

Below Yost and Haines, W. V. Sakow is hydraulicking with two nozzles and four men on a claim owned by D. Strandberg. This ground averages 50 cents a bedrock foot. The bedrock is uneven and fractured monzonite. They expect to clean 25,000 feet of bedrock this season.

Patrick Savage is hydraulicking on the ground of the Alpha Mining Company on Alpha Creek, a tributary of Flat Creek, 5 miles south of Flat. Three men have been employed part of the season. This year 12,000 feet of bedrock was cleaned on ground that averages about 50 cents to the bedrock foot. It was upon this property that the fatal accident (powder explosion) of William Savage occurred August 14 of this year. Kk 73-51

August 28: The Awe Mining Company, a new operation consisting of a dragline and bulldozer and elevated boxes, is located on Flat Creek two miles south of Flat. This is a partnership arrangement consisting of the Awe brothers and Henry DuRand of Flat. Mr. F. M. Awe is in charge. The company has a lease on seven claims. They employ 12 men. They have cleaned up 100,000 feet of bedrock and expect to clean up as much more. This is an expensive operation with many factors contributing. The ground ahead of the dragline has not been proven and they are working side pay alongside dredge tailings. Reports are to the effect that they are not making expenses. Kk 73-31

Takotna 73
Uotila and Ogriz are operating a dragline, bulldozer, and hydraulic $5\frac{1}{2}$ miles southeast of Flat on Slate Creek. They employ 12 men. Tailings are stacked with dragline. Hydraulic and bulldozer move gravels into bedrock boxes. They have encountered considerable frozen ground and will only clean up 250,000 bedrock feet as compared to 350,000 bedrock feet last year. They have an airplane drill and drilling has been in progress all season on upper Slate. Kk 73-45

The Moore Creek Mining Company, a new operation, is mining with dragline and bulldozer on Moore Creek, a tributary of the Takotna River. This company has 14 claims and a fraction and is owned by Charles and Gus Uotila, Elmer Keturia, and John Ogriz. Moore Creek is located 37 miles east of Flat. They have an airplane field 1250x100', costing \$3,000. Thus far 130,000 bedrock feet have been cleaned. The ground runs between 30 and 50 cents to the bedrock foot. This is the second year of operation for this company, however, this is the first year with dragline. Kk 73-49

The Fairbanks Exploration Company drilled with four men and airplane drill on Moore Creek, half a mile below the holdings of the Moore Creek Mining Company. On date of visit the drill had been moved to Fourth of July Creek.

August 29: The dredge of the North American Gold Dredging Company, owned by Alex Matheson, has been operating all season within the town of Flat. Considerable of the ground was the re-dredging of the tailings formerly dredged by Shonbeck and Beaton. Matheson, while dredgemaster for Shonbeck and Beaton, discovered this small dredge was not digging to bedrock. He bought the dredge and property, lengthened the bucket line and has made a success by redredging. He employes 20 men on the dredge, thawing with points, and drilling with a 5-inch drill. This year he expects to dredge between 400,000 and 500,000 feet of bedrock. Kk 73-23

Indit. *73*
The Riley Investment Company's dredge on Otter Creek east of Flat has been operating since June 10. They have dredged nearly 200,000 feet of bedrock. Sixteen men are employed. The ground was reported as averaging 20 cents to the bedrock foot. The company is thawing with 70 points and 700 sweaters. *KK 73-9*

August 30-September 1: Await plane and flying weather.

In summary it may be added that pictures were taken of nearly all operations. Rainy and cloudy weather hindered the taking of good pictures. During the entire month there were only three days without rain. This made traveling by air much delayed. Detail notes were taken of most operations as to nature of gravels, nature of gold and concentrates, machinery, etc. These will be contained in detail short reports of each operation. Nearly every operation with the use of modern machinery have discovered many enlightening facts about its use, the ground itself, many new problems and methods have developed, which given in detail reports will be educational to the placer industry as a whole.

In regards to the lower Kuskokwim region from Goodnews Bay to the Tuluksak, this offers one of the great future dredging areas of Alaska. Detail geology of this whole region, outlining the intrusives and limits of ice action would be a great help. This region has many advantages in respect to dredging as compared to the interior of Alaska. Even the ice action itself with all its destructive agencies, has also been in some respects a contributing factor for advantageous mining of this kind. These will be contained in a general report of this region.

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