

SUMMARY REPORT OF MINING INVESTIGATIONS IN THE OTTER,  
 INNOKO AND NULATO PRECINCTS TO THE COMMISSIONER OF  
 MINES, TERRITORIAL DEPARTMENT OF MINES, AND  
 ITINERARY OF J. C. ROEHM, ASSOCIATE MIN-  
 ING ENGINEER

August 10 to 31, inclusive, 1939

August 10-11. En route Sleitmut to Flat.

A total of seventeen operations, all placer, comprise the mining activities in the Otter precinct. While the operations are similar in number to those of two years, ago, an increase in gold production of approximately one hundred thousand dollars is expected this season. This estimate is based on greater returns from the first two months of operation. While generally the spring season was backward, most operations started in good time and much earlier than those of the lower Kuskokwim. A shortage of water was evident during the dates of visit and rather a dry season was in effect. Better grade ground was encountered by the two dredging companies, and the Awe Mining Company and the Ogriz & Uutila operations have been the contributing factors to an increased production.

Following is the complete list of operations in the precinct:

Harry Egoff has two men employed and is hydraulicking on Prince Creek near the head and across the divide from upper Chicken Creek.

The Stover Brothers have two men hired besides themselves and are preparing ground on the Summit Association Claim located on the summit of the divide between Happy and Chicken creeks. This operation was short of water and they were preparing for fall mining, having mined during the spring run-off.

Milo Caughrean is hydraulicking and using a hydraulic lift with three men on Upgrade.

Fred Lusher is groundsluicing on Malamute Pup alone.

F. Salen is operating alone a small hydraulic on Granite Creek.

The Riley Investment Company and the North American dredges started sluicing in June this year on Otter Creek. The former dredge is now located at the east end of the airfield and the latter dredge is on the extreme right limit of Otter Creek opposite the town of Flat. The Matheson dredge is to be rebuilt this fall with new power, steel pontoons and a larger and deeper bucket line. Matheson drilled several holes through the old tailing dumps on the east border of the town of Flat. Here he found still remaining in bedrock gold values with some holes showing as high as six dollars a yard. This ground is to be re-dredged with the remodeled dredge. KX75-9

The Awe Mining Company has mined nearly all of its ground on Flat Creek, and is at present operating on the Chicago Bench Claim. To date this year, they have mined 230,000 bedrock feet and have recovered \$50,000. They still have a little remaining ground on the Wildeat fraction which they intend to drill. This company has optioned all of Chicken Creek from the Chicken Creek Mining Company and they expect to move all of their machinery and crew to lower Chicken Creek. They have purchased all the equipment of the Chicken Creek Mining Company and are starting this operation on upper Chicken Creek. This latter operation is a bulldozer and stack high line scraper. The other operation is by dragline and bulldozer. The company is drilling on upper Chicken Creek within a few hundred feet of the divide between Chicken Creek and Upgrade and is obtaining workable values. KX 73-31

August 12. At the request of H. DuRand and F. Awe, the writer investigated all of Chicken Creek for the purpose of determining elevations, grades and possible mining sections on the creek. Values apparently extend over the entire length of the creek, however, only the upper portion and the lower section can be mined due to the great amount of boulders in the central portion. For three claim lengths below the narrow or canyon-like section, the ground has been drilled. The pay ranges from 150 to 200 feet in width, and ranges from 25 to 35 cents per bedrock foot. The average depth to bedrock is 20 feet. The gravels are medium in size and boulders are lacking. The greatest portion of the wash is monzonite sands. The gold is fine and of high value. The upper portion of Chicken Creek still contains sections along the edges of the old workings which show good pan values, and no doubt some sections can be worked. Above the old workings more pay has been revealed by drilling and there is a possible chance of pay to near the top of the divide. Here the depth to bedrock varies from 30 to 45 feet. The material is residual monzonite sands and easily worked. The problem in this section is lack of sufficient water for sluicing. KX 73-6

P. Savage is operating a bulldozer and hydraulic on the Alpha Claim at the head of Flat Creek. He has eleven men employed. He was reported to have produced \$15,000 to date.

Slim Huston is operating a hydraulic on the Hill Top Claim on Upgrade with two men hired.

Gus Backstrom is hydraulicking with two men on the Idaho Claim on Upgrade.

The Moore Creek Mining Company on Moore Creek, 30 miles east of Flat was reported to have 12 men employed. To date this year, they have produced \$47,000, as reported by the management. This company has the advantage of considerable thawed ground and is expected to do exceptionally well this season. The company has purchased a new 5-inch Kirk-Hillman drill which is being operated this season with 3 men. KX 73-49

The Northland Development Company has 10 men employed on Willow Creek below Happy Creek. They have nearly reached the mouth of Happy Creek and next season the machinery will be moved to lower grade ground on lower Willow Creek. KX 73-15

The Olson Bros. have 10 men employed on Happy Creek. This season they expect to close this operation as all known pay has been mined. Drilling is, however, continuing on bench claims with favorable results. They have an option on Wm. Duffy's ground on upper Happy Creek which also is to be drilled this season. KX 73-18

Gus Rodman is hydraulicking with two men on Julian Creek. The pay ground was reported as nearly worked out.

Olaf Olson was reported to have found pay on a tributary of Michigan Creek above Julian Creek. This is located 35 miles southeast of Flat. At the present time he is groundsluicing with two men.

Mr. & Mrs. Landru are prospecting at the head of the Hoholitna. They are trying to locate a Woods Creek on which pay was found several years ago.

Frank Roderer has been prospecting on the Oskarolic River north of Taylor Creek, a tributary of the Kuskokwim River, and was reported to have found pay 75 miles up from the mouth.

R. Windbar and partner are doing assessment work on a group of claims on Willow Creek, the latter a tributary of Fourth of July Creek, east of Mine Creek.

August 13. The Uotila & Ogriz operation last year mined all the known pay ground on lower Slate Creek. They had a poor season and intended to close the operation. During the writer's visit in 1937 a trip was made on foot from Flat Creek over the divide and down the north head branch of Slate Creek. The monzonite intrusive was noted as extending a short distance down this branch from the head. This information was given Mr. Ogriz with the recommendation that he move his drill from the main valley of Slate to this upper branch. This was done last year and good pay was encountered. This spring one and a half miles of road was built, one mile of bedrock drain was dug by dragline, two miles of ditch was dug by caterpillar, the entire camp was moved and sluicing started on June 27 of this season. The first cleanup amounted to \$40,000. The pay was found to range from 500 to 600 feet in width, 12 feet in depth and reported averaging 50 cents per bedrock foot. The length of pay is not determined. The gravels are stream laid, medium to fine, with scattered well-worn rocks which apparently are the remnants of an older higher channel. Thus the upper end of the creek contains both the present KX 73-45

concentration direct from the monzonite plus a reconcentration of part of an old channel, and as a result has made a workable placer. Eleven men are employed working two 10-hour shifts, and mining nearly 1,000 yards a day. Two hundred thousand bedrock feet is the amount that is expected to be cleaned this season. This new discovery only helps to prove that further prospecting is warranted in this old district. The same is true of other placer districts where mining has been carried on for several years.

August 14. Pete Miscovich & Sons, located on Otter Creek, <sup>KX 73-23</sup> started sluicing in May and have already cleaned 250,000 bedrock feet with a production to date of \$70,000. This operation utilizes two caterpillars with bulldozers, a Northwest Trencheau, two hydraulic lifts and two to six hydraulic nozzles. Water for hydraulicking is furnished both by gravity and a DeLaval low pressure turbine, which drives a DeLaval centrifugal pump furnishing 3600 gallons per minute. Bulldozers, hydraulic and Trencheau are used to move material to the hydraulic lifts. The lifts raise material from 6 to 11 feet into the elevated boxes. Occasionally the bulldozer is used on the tailings. Considerable bedrock is cleaned by hand. Two types of lifts are used. The old type is a 4-inch nozzle at the base of a circular cylinder, which directs the incoming stream into a steel chamber reduced above. The front half of the bowl is cut away on the bottom to allow the material to enter. Thence it is elevated upward into the throat which widens above and continues into the sluices above. The new type of lift is of a larger capacity with larger bowl and has three two-inch nozzles instead of one 4-inch. This type was found more efficient in that its actual raise was found to be 14 feet to a 100-foot head. The advantages of using lifts at this operation are:

- (1) The gravel contains a stiff clay sediment which the lift breaks up readily and acts more efficiently than a washing plant.
- (2) Furnishes sufficient water for sluicing and eliminates nozzle man.
- (3) Elevation of boxes gives tailing room, and eliminates use of dragline.
- (4) No sluice men needed as any rock lifted goes through sluices.
- (5) Using two lifts and working in two cuts reduces waste of time in moving.

Pictures and measurements of each type of lift were taken and a special report will later be written. A blue print of the new type was promised by Miscovich. These lifts could be used to a great advantage on properties with plenty of water and where stiff clay is encountered, eliminating a trommel screen.

August 15. Flat to Holky Dredging Company, Ganes Creek.

The Holky Dredging Company started operating on May 26 and is located on Claim No. 2 Below Discovery. The capacity of the dredge is 2,000 yards daily and a total of 17 men are employed. The dredge operates 24 hours daily with two regular 10-hour shifts and one 4-hour shift. Considerable frozen ground has been encountered this year. Stripping is done with bulldozer and points are used in the frozen areas. The dredge has been improved considerably and cleaned up. A new Ingersoll two-cylinder compressor, and new arc and acetylene welders have been added. A new machine shop has been built on land. The company owns two Fairbanks make drills and has a crew engaged in drilling on Ganes Creek, two miles below the dredge. Good values were reported as being found.

*Opinion 6A*  
Frank Speljack is operating two bulldozers and a hydraulic plant on the Coffy Bench on the right limit of Ganes Creek, just below the Holky dredge. He has installed a new D-13000 caterpillar unit with Allis Chalmers pump for hydraulic pressure, pumping the water from Ganes Creek up onto the bench, a vertical distance of nearly a hundred feet. He also has some gravity water which is used to thaw. This operation has not been successful this season due to the fact that he does not have sufficient water to thaw sufficient ground at the rate that he is equipped to mine. Last spring in cooperation with the Holky Dredging Company Speljack built one and a half miles of road extending from the Holky dredge down Ganes Creek on the right limit to Speljack's camp and thence a bridge across Ganes Creek and one half mile of partly built road down on the left limit. Speljack claims that a sum of between three and four thousand dollars is due them from the Territory for the cost of building.

*Opinion 6A*  
Vibe & Schweasdall are operating their dragline on Spaulding Creek. They started sluicing on June 25 and have nine men employed working two 10-hour shifts. This year will complete their upper ground, and they have one season's work at the mouth of Spaulding. This year a new D-13000 Caterpillar unit with a 10x12 Allis Chalmers pump was purchased to supply water for the washing plant. Gravity water was formerly used. Last season a total of \$72,000 was recovered from 350,000 bedrock feet. The same amounts are expected for this season.

August 16. Cravey and Zaiser have a lease on eight claims above Vibe & Schweasdall owned by John Riech of Takotna. They have purchased a Northwest dragline, one and one-fourth yards, and a 40 H. P. International tractor with bulldozer. The washing plant had just been completed on date of visit and they were ready to begin mining. Their pay ranges from 60 to 180 feet in width and the gravels range from 4 to 6 feet in depth. Cold water springs that flow both summer and winter furnish water and keep the gravels thawed.

Moss & Larsen Mining Company, a newly organized partnership, purchased the Savage and Matheson dredge on upper Ganes Creek. The dredge and some ground was purchased for the sum of \$8,000. Thus the company owns from Seven Above Upper Discovery to Twenty-four Above. The dredge was put into operation August 13 and later reports were that the first cleanup amounted to \$8,000. Two 10-hour and one 4-hour shift is worked on the dredge with a total of nine men employed.

Ophir 64

C. Gobel, who owns five claims on Macky Gulch, right limit of Ganes Creek, is operating a small hydraulic with three men employed. He hires a caterpillar and bulldozer to clean bedrock of each cut. First cut this year was 800 bedrock feet and a recovery of 23 ounces of gold was made.

Haig & Olivera have 60 feet of boxes with pole riffles set up at the mouth of Fraction Gulch, and are shoveling-in at odd times. This ground is still in dispute as to ownership between the Griffin Estate and Holky Dredging Company.

Fred Holky and Frank Minte are holding the old Carter quartz prospect, located at the head of Spaulding Creek. This year they have started to build a road off the Takotna-Ganes Creek road to the property.

Cliff Hawkins is prospecting for quartz on Spruce, Little and upper Ganes creeks.

Waino Puntilla is operating his flume dredge on claims Eight and Nine Above, Gold Run, on Little Creek. He started this season on June 27 and is working two 12-hour shifts. Eight men are employed. The dredge is encountering considerable frozen ground and not doing so good this year. Last year's production amounted to 333 ounces.

Degnan & Rosander have taken over the old Speljack operation, known as the Bonanza group on the right limit of Little Creek, one-half mile up from the mouth. They have a total of 10 claims. The operation is a hydraulic with two International tractors with bulldozers, bulldozing and hydraulicking into boxes set on bedrock. They have six men employed besides themselves and work two 10-hour shifts. Since the ground is frozen and varies from four to twenty-five feet in depth, averaging eleven feet, several cuts are started at once and thus utilize natural thawing. This year they expect to clean two hundred thousand bedrock feet. The ground was reported averaging 60 cents to the bedrock foot. KX 64-32

Last year Nels Vibe purchased the Yankee Creek dredge for \$16,000 and paid \$3,000 for 16 patented and 18 unpatented claims owned by the Flume Dredging Company. At the present time there is considerable dispute as to the ownership of the 18 unpatented claims. This year the dredge was reported as doing exceptionally well with nine men employed. KX 64-43

Ophir 64

The Ophir Development Company, which holds fifty claims extending from the mouth of Ganes Creek to the town of Ophir on the left limit of the Innoko River, has drilled a total of 140 holes on twelve drill lines, 750-foot intervals. Holes are at 100-foot intervals and vary in depth from 16 to 46 feet. The gold is fine and the pay is uniform. The Olson Bros. are interested in the drilling of this ground. KX 64-27+40

August 17. Matheson & Savage have bought five miles of ground on Spruce Creek, a tributary of the Innoko River below Little Creek. This is a new operation with dragline, hydraulic and bulldozer which started mining on June 7 of this year. Mining started on the Evan Jones and Nickelson ground, located two and one-half miles up from the mouth, on Claim No. Three Above Discovery. The pay averages 300 feet in width. Several spots were worked in early days. The center portion is in thawed ground and the benches frozen. They expect to clean 300,000 bedrock feet this season with 130,000 bedrock feet already cleaned. The gravel averages seven feet in depth, but is overlain with 6 to 15 feet of black muck. The bedrock is shale with numerous porphyry reefs. Hydraulic water is used for thawing and moving gravels into bedrock boxes. Caterpillars are used to move material to the hydraulic in front of boxes and a dragline is used to dip tailings. A total of 12 men are employed. The company owns and operates a 4-inch Kirk-Hillman placer drill. This company has been very successful this season.

KX 64-26

Eric Hard is still operating his steam high line scraper on Ophir Creek five miles up from the mouth. A total of eight men are employed and the plant is operated two 8-hour shifts. This season a shortage of water necessitated the purchase of a pumping plant. Costs are getting higher at this operation due to cost of pumping water and the use of the bulldozer for stripping and building of considerable ditches. An average of 360 yards are mined in an 8-hour shift. A total of 40,000 to 60,000 bedrock feet are mined per season. Wood costs \$25 a cord and is scarce at the present time in the district.

KX 64-31

Uotila and Hard began their dragline operation on lower Ophir Creek on September 10, 1937. Last year they mined 325,000 bedrock feet which varied from 20 to 40 feet in depth, 15 to 20 feet of which was black muck. Last year they had considerable ground prepared ahead. This year they lacked the prepared ground and their operation was considerably limited due to frozen ground. This operation uses hydraulic for thawing and moving material into boxes set in bedrock. Bulldozers move material to hydraulic and the dragline is used to stack tailings. This system of mining has been found most satisfactory for frozen ground. The bulldozers keep the cut to a low even grade which can be flooded with water which acts as cold water thawing and the thawed material is immediately removed with the bulldozers. This method is slow and expensive, but cheaper than thawing with points. A Kirk-Hillman 4-inch drill is used extensively. New camp buildings and homes have been built at the mouth of Ophir Creek. These buildings are of good structure and workmanship. A total of twenty-two men are employed and three 8-hour shifts are worked.

KX 64-31

D. S. McDonald, T. McKenna, N. Radovich and J. Mulbly have ninety 20-acre claims staked on the left limit of the Innoko River starting one and one-half miles below the town of Ophir and extending three and one-half miles north. They started drilling this ground last year and have completed a hundred holes. The depth to bedrock ranges from 12 to 69 feet.

Ophir 64  
The width of pay was given as 1200 feet. The values were reported running 40 cents per yard. A common log consists of 4 to 50 feet of black muck, 9 feet of gravel, 1 foot of clay and a shale and porphyry bedrock. The ground is all frozen. The gravels are stained both red and black. The gold is fine and values spotty and is contained all through the gravels and in bedrock. Mr. D. S. McDonald wants to lease this ground on a low percentage basis. Any one interested can wire or address Mr. McDonald at Ophir and drill returns will be furnished.

Mrs. Anderson is drift-mining on Anvil Creek.

Victor Hill is hydraulicking on a bench between Spruce and Anvil Creeks.

McGrath  
Strandberg and Sons are operating at Candle Creek with 23 men employed. They expect to mine over 400,000 bedrock feet this season with a production of \$125,000 to \$150,000. The new road from Takotna to Candle landing was reported as over half completed.

August 18. Ophir to McGrath to Folger.

The Cripple Creek Mining Company is employing a crew of 29 men, working three 8-hour shifts on Cripple Creek at Folger. This year the company has a new Bucyrus-Erie washing plant. This is an all-steel plant and weighs 25 tons. This washing plant is mounted on steel skids. Thick rubber hose is used on joints instead of pipe joint elbows, etc. The company has leased and staked 25 claims on Colorado Creek above Paulson's ground. Twenty holes were drilled last season on Colorado and Eldorado creeks. The benches were found frozen and the creek bed thawed. Eldorado Creek shows some old drift workings and granite boulders are present. This is also true of upper Colorado. These creeks cut deep into the Cripple mountain granite and may contain minable pay. 1764-49

Ophir 64  
Mike Kovack has 18 claims staked on lower Colorado Creek. He sank one shaft and hit bedrock at 92 feet, 60 feet of black muck and 32 feet of gravel. The bedrock was argillite. This was on a bench on the left limit of Colorado five miles below Paulson's operation. He reports pay in gravels.

Frank Masschelin has twelve 20-acre claims staked on Butte Creek on the south side of the Cripple Mountains. He sank a hole to bedrock 17 feet in depth with 15 feet of black muck and 2 feet of gravel which contained coarse gold. The bedrock was porphyry which was iron stained. Considerable quartz float was found in the gravel. Both muck and gravel are frozen.



KKL-15

Hard, Uotila & Hansen started sluicing this year on July 27 after two years of preparation. They are operating a dragline and elevated washing plant, and thawing with hydraulic nozzles. The present location is Bear Creek, two miles west of Folger. A group of 32 claims is held. Considerable drilling has been done with a Kirk-Hillman 4-inch drill. The pay ranges from 350 to 425 feet in width and consists of an old pay channel of Cripple Creek. Pay runs part way up Bear Creek, crosses over to Beaver Creek, and cuts across Bear back across a long flat bench to Cripple Creek at a point on the left limit of Cripple Creek on the Horse Shoe Association Claim. Nine year's ground has been proven. On Bear Creek the ground ranges from 15 to 20 feet in depth consisting mainly of black frozen muck. The first cut of 100,000 bedrock feet was mined in eleven days and \$17,000 was recovered. Twenty-one men are employed and three 8-hour shifts are worked. Three-fourths of a mile of bedrock drain, and ten and one-half miles of ditch has been dug. Thawing is the greatest problem and the low grade of the creek presents a stripping and tailing problem. Considerable clay in the gravels presents a washing problem. However, the gravels range from medium to fine with no rocks or boulders. Considerable buried brush on top of the gravel at the bottom of the muck presents another problem which increases the mining costs. Winter freight costs \$52 per ton from Seattle.

64

Opinion

August 19. Sid Paulson has changed from a hydraulic and caterpillar operation to a dragline this year and started sluicing on June 17. He worked on a cut of prepared ground on his upper holdings on Colorado Creek. This was thawed and a good recovery was made. Thence the dragline was moved to lower Colorado where the ground averages 18 feet in depth and is mostly frozen. Cuts were not worked out due to the extent of frozen gravel and have to be left for next season. Considerable time and effort was lost in trying to work this partly thawed ground. A total of 16 men are employed and three 8-hour shifts are worked. Paulson has built a good camp, which is painted, and maintains a good long airfield. Also he has drilled considerable ground on lower Colorado with a 4-inch Kingman drill.

A trip was made at the request of Mr. Ralph Reed to investigate the possibilities for quartz at the heads of Eldorado, Nugget Gulch and Cripple Creek. No veins were seen in place, and very little quartz was noted. Erosion has been comparatively great in this section and if quartz veins existed they have mainly been eroded away.

KKL 64-8

August 20. Three Miners, Inc. are operating a dragline on Esperanto Creek, three miles up from its mouth on Claim No. 3 Above Discovery in the Tolstoi district. The holdings of this company amount to 64 claims on Esperanto, Keatin Gulch, Flat, Madison, Joffre, Iron and Myers creeks. This operation began mining last year on July 21 and this year on July 10. Keatin Gulch and Esperanto below the gulch were worked last year with the ground averaging 33½ cents per bedrock foot. On Keatin

64 →  
Caterpillar  
Nulato 351 →  
Gulch the depth averaged 8 feet, while on Esperanto below the average was 9 feet. The company is well equipped with Bucyrus-Erie 37-B dragline and steel washing plant with R. D. 8 Caterpillar and bulldozer and large D-1300 Caterpillar pumping plant. This year the dragline was moved below the workings on Esperanto to opposite Flat Creek. Considerable frozen ground was encountered and several cuts had to be left to thaw. Two 10-hour shifts are worked and a total of twelve men are employed.

August 21. A field trip was made with A. Schweasdall from Esperanto Creek following a yellow porphyry band across Joffre, Iron and Myers creeks. This porphyry band has been intruded into Birch Creek schists. All the placer gold in this district appears to be associated with this porphyry zone. There appears to be considerable ground following this porphyry band to the west that warrants testing and some may prove to be workable ground. Considerable more prospecting is warranted in this entire district.

August 22. The Kaiyuh Mining Company (a Havenstrite operation) is located on Camp Creek, a tributary of the Khotol River. This creek flows northwestward and starts in the central portion of the Kaiyuh Mountains. This creek is named Canoe Portage Creek on the map contained in bulletin 868-D, "The Kaiyuh Hills, Alaska" by J. B. Mertie, Jr. In a straight line this operation is located 30 miles south and a little east of Nulato on the Yukon River.

Pay gold was found on Fager Gulch, a short tributary of Camp Creek, in 1911 and some mining has been done on these creeks since. The ground on Camp Creek has been held by John Lasko, Mike Soine and Nick Honen. This operation began mining in July of this year with dragline and washing plant. A total of 80,000 bedrock feet has been mined to date with two hundred thousand expected for the season. A crew of 12 men is employed and two 10-hour shifts are worked. Mining is located below Fager Gulch on Camp, 10 miles down from the head on No. 4 Claim Above Discovery. The company is well equipped with a Bucyrus 37-B dragline, new type Bucyrus washing plant, and Caterpillar tractor-bulldozer and pumping plant.

The extent of the pay on Camp Creek and Fager Gulch is not known. Pay is definitely known on two claims below Fager Gulch on Camp Creek and for two claim lengths up Fager Gulch. The width of present pay is 200 feet and it rests on a blue gumbo clay on top of bedrock. Eight to nine feet of black muck, which is stripped, covers the gravels. The gravels average 4 feet in thickness, and are stained both with iron and manganese. The nature of the gravels is coarse, containing well worn boulders of mainly lava composition, and are remnants of older channels. The bedrock is Birch Creek schists which range from mica and graphitic to chlorite schists. The gold has a flat nature, but is heavy, medium in size, with the largest nuggets found valued at \$6. Considerable black sands are associated consisting of pyrite, magnetite and garnets.

August 23. Return to Esperanto and Ophir.

August 24. Ophir to McGrath.

August 25 and 26. Held at McGrath on account of adverse weather conditions.

August 27. McGrath to Ruby - Ruby to Long.

August 28. The season in the Ruby district has been very wet. The creeks have been high, in fact too high for good mining. As a result of continued rain the road is in a very bad condition and impossible from Long to Poorman. On account of this condition the Poorman district was not visited. The districts contain no active prospectors as all men are mining for themselves or for a company. Some prospecting is done during the winter season. Ten mining operations were in progress this season in the Ruby-Long-Poorman areas. Some of these had already closed down, mainly drift operations, on account of too much water. The present freight rate per ton from Seattle to Ruby ranges from \$50 to \$60 depending on the nature of the freight. An additional charge of two cents a pound is in effect from Ruby to Long, and three cents to Poorman. The cost of wood is \$14 a cord. The average wage for miners is \$6 and board for eight hours. The Long Creek Mining Company pays \$7 as the lowest wage for ten hours with board and caterpillar men \$10 and dragline operators \$12.50 per 10-hour shift.

Ruby  
Vance Hitt bought four large association claims below the Forno ground at Poorman and leased all of Poorman Creek up to the mouth of Duncan Creek. He has a dragline and complete equipment on the way in from the outside and intends to mine next season. He also has a scheme to pick up the water from Long Creek and pump it over the divide between Tamarack and Poorman to the head of Poorman Creek.

August 28. The Trail Creek Mining Company is operating a bull-<sup>456-10</sup> dozer and hydraulic outfit on Trail Creek, nine miles due east of Long. This company owns 20 single placer claims, all on Trail Creek. The company is a partnership, the owners being T. Rae, Elmer Koskolo and Eli Linn. They have one man hired besides themselves and work one 10-hour shift. Last year was spent in thawing and preparing ground. This season they started to mine, but discovered the grade of bedrock was too low for boxes, and as a result they were unable to mine with equipment and have gone ahead preparing more ground, and expect to purchase a dragline this winter. The depth to bedrock ranges from 20 to 50 feet, the gravels ranging from 4 to 9 feet and covered the remaining depth with black frozen muck. The bedrock is soft and decomposed shales and green schists and has a grade of 80 feet to the mile. There are two types of gold, one smooth and the other rough, and both are distributed throughout the gravels with very little on bedrock. The pay averages 300 feet in width and was reported to average 25 cents to the bedrock foot.

The Long Creek Mining Company started operating last year on Long Creek at the mouth of Bear Pup and worked up Long Creek. A total of 250,000 bedrock feet was mined with a reported recovery of \$225,000. This season mining has been on Bear Pup from the mouth up. A total of 300,000 bedrock feet is expected to be mined this year and a recovery of less than \$95,000 is expected. The ground on Bear Pup was originally richer ground, but drift mining has removed the greater portion of the gold. These old workings, in addition to marginal ground, is now being remined. The method of mining is using hydraulic and bulldozing into boxes set in bedrock and stacking tailings with dragline. The company has 25 claims under lease on Long Creek and Bear Pup. This season will finish Bear Pup and next year they will start on their lower ground on Long Creek where they have a few men thawing with hydraulic at the present time. Eighteen men are employed and two 10-hour shifts are worked. x56-19

August 29. The Midnight Creek Mining Company hold 14 claims on Lower Midnight Creek. Several holes were sunk last winter by Dennis Coyle for the company. The dumps of all these holes, plus all the dumps of the old workings, were investigated for rocks containing cassiterite which is abundant on the creek. x56-28

J. R. Campbell is groundsluicing on upper Midnight Creek and holds eight 20-acre claims.

At an elevation 660 feet on the upper McFadden Association Claim and extending down onto the Lower McFadden Association Claim, the old workings show a greenish intrusive bedrock that ranges from a diabase to a gabbro. This rock weathers to a greenish gray with a reddish cast and contains a black metallic rectangular shaped crystal, which may be a form of tin. One test of this mineral gave a chromium reaction. Other tests are being made. This was the only bedrock found over the entire course of the creek that appears likely to contain tin. This intrusive dike or sill strikes NE. and crosses greenstone and Flat Creeks which also contain tin concentrates. For three miles on Midnight Creek, J. R. Campbell has estimated the tin content to be fifty tons of cassiterite concentrates with a gold estimate on the same ground of \$300,000. x56-5

Dennis Coyle is drift-mining on the Windy Bench Claim at the mouth of Anderson Pup one-fourth of a mile south of Long. He has a new shaft down 42 feet on an old channel between Mascot Bench channel and Long Creek channel. He has crosscut the channel for 70 feet and has now started to drift. Pay is confined to bedrock the first five feet above. Cold water thawing is used and the pay ranges from \$1 to \$1.25 per bedrock foot. A steam boiler is used for hoisting and pumping water. Three men are employed and one 8-hour shift is worked.

Al Burke has been drift-mining with five men in a 30-foot shaft on the Amile Bench below Discovery on Long Creek. He operated two months and then water flooded the shaft. He reported taking out 2,000 bedrock feet that averaged two dollars per foot.

Charlie Ross and Ed Odegard are drift-mining with four men at Placerville. They are drifting on old channel workings and report the ground very spotty. Several large nuggets have been found.

Baldo Forno is drift-mining with seven men employed at Poorman.

Wm. Ferry, D. Lockneer and Gus Johnson are drift-mining with three men employed on Duncan Creek, a tributary of Poorman Creek.

Wm. Vuich has eight men employed and is drift-mining on Flat Creek five miles southwest of Poorman.

Schropshire and Anderson are drift-mining on Timber Creek below Flat Creek. This operation was formerly Schropshire & Company.

John Vick is holding his placer ground on Spruce Creek. There is no operation on Spruce Creek this year.

Charlie Anderson is sniping on Tamarack Creek.

On Monument and Greenstone creeks there is no operations this year.

Alex Schell is sniping on Short Creek.

Ernest Warner is groundsluicing in an openout on Swift Creek.

August 31. A field trip was made to the head of Big Creek on the north side of Cecil Dome where tin concentrates have been recovered with the gold. All the dumps were investigated for pieces of float containing cassiterite. The rocks of the dumps contained mainly quartz pieces with some dark dike rocks. Some of the quartz pieces were found to contain black tourmaline. Considerable of the cassiterite found in this district has small pieces of quartz attached to it. No pieces of quartz were found, however, containing cassiterite.

I. W. Purkeypile of Poorman has <sup>Little No. 217</sup> several placer claims located on Moran Creek, a tributary of the ~~Tozinta~~ River. This creek is located 20 miles north of the Yukon River directly north of the mouth of Grant Creek. He reports this creek as being 10 miles in length, and from groundsluicing operations this season, reports the ground ran five cents to the pan in gold and one-fourth of a pound of tin. The bedrock was reported as schist, from which, in his opinion, the tin originated. A few samples of the bedrock are being mailed to this office.

Frank Hawks and Robert Leslie have made a discovery of placer gold on the Titna River, a tributary of the Nova River.

C. Fillez has ten claims staked on the Titna River and reports nine dollars in gold was recovered from nine bedrock feet.

F. G. Horner has several claims staked up the Nova River and was reported testing the ground.