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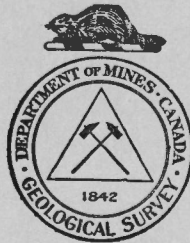
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MEMOIR 178

The Mining Industry of Yukon, 1934

BY

H. S. Bostock



OTTAWA

J. O. PATENAUDE

PRINTER TO THE KING'S MOST EXCELLENT MAJESTY

1935

Price, 10 cents

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PREFACE

The following notes on mining activities in Yukon during 1934 have been chiefly gathered by means of correspondence with those connected with the various enterprises. The writer wishes to express his appreciation to all who have assisted him in gathering the information, both during the field season and by correspondence subsequently.

The Mining Industry of Yukon, 1934

PLACER MINING

FORTY MILE RIVER

During 1934 a dredge was constructed on Fortymile river, a short distance below the mouth of Bear creek, under the direction of Mr. H. G. Blankman. Mr. Blankman writes that it was originally expected that the dredge would be ready to operate during the latter part of the season, but that the torrential downpour that occurred in August produced a flooded condition that lasted until the end of the season and, therefore, the dredge was only operated to dig to a safe place for wintering. In this undertaking, however, the dredge operated very satisfactorily and a successful season is looked forward to in the coming year. This dredge is of a small prospecting type. There are thirty-eight $2\frac{1}{2}$ -cubic foot buckets in the line and the dredge is expected to handle 700 to 800 cubic yards a day. It is hoped that this dredge will prove sufficient ground of value to warrant instalment of a larger dredge with 5-cubic foot buckets.

KLONDIKE DISTRICT

During the season of 1934 the Yukon Consolidated Gold Corporation continued to operate its five dredges. In Klondike valley the three large dredges operated on the Boyle concession. These dredges have continued in general to operate along the plans mentioned in the report of last year and, it is reported, with satisfactory results. Canadian No. 2 is located in the middle portion of the valley a little below Bear creek and is working its way upstream, digging small patches of virgin ground left among the tailings by the old small dredges and working ground where the old dredges are thought to have failed to reach bedrock. Canadian No. 3 is on the northeast side of the tailings in Bonanza basin. It is dredging a narrow strip along the northeast side of Bonanza tailings. It is intended to try digging the old tailings of the first dredging done and some islands of virgin ground, in the course of working down to dredge the site of the old camp of the Yukon Gold Company and ground in that neighbourhood. Canadian No. 4 has completed the dredging of the ground between Klondike river and the left limit of the valley as far down as the syphon at Bear creek and is now to turn and work upstream on the right limit of Klondike river as far as the mouth of Hunker creek. A thawing plant was still operating ahead of Canadian No. 3, but was the only one used in Klondike valley this season. The prospecting of the large stretch of ground on the left limit of Klondike river below Bear creek has been completed. The

plan of sluicing and thawing this ground with water from Klondike river has been put into effect and during the season a large volume of water was diverted across the area. Some operations have also been carried on at the mouth of Hunker creek preparatory to dredging there. As anticipated last year the hydraulic operations have been discontinued.

On the Indian River side of the district, Northwest No. 1 continued to dig in the valley of Dominion creek, working its way upstream, and is now on Eleven below Upper Discovery. Northwest No. 2 has been working on the right limit of Dominion creek, between Granville and the mouth of Sulphur creek. Thawing plants are operating ahead of both these dredges. A change in the thawing plant working ahead of Northwest No. 2 has been partly carried into effect. The change consists of installing pumps to supply a greater volume of water with which to ground-sluice the frozen muck before thawing with points the gravels below the muck instead of thawing with points the whole thickness of overburden. In pursuance of this policy it is planned to install additional pumps for use during the coming season. The material and equipment for the building of a third dredge to operate on Dominion creek have been moved to Granville. This dredge will have 7-cubic foot buckets. It will be constructed in the spring of 1935 and is expected to be in operation during the latter part of the 1935 season. On Quartz creek the prospecting of a large stretch of ground has been completed and work preparatory to the building of a dredge is well advanced; this work includes the digging of the pit and the hauling of much of the materials and equipment to the locality.

The corporation has been carrying out an extensive prospecting program on Henderson, Black Hills, Eureka, Montana, and Flat creeks.

A new unit is being added to the power plant on the North Fork of Klondike river which will increase the power available by somewhat more than 50 per cent.

The season is reported to have been satisfactory, though two unfortunate mishaps took place. The first of these was a fire in the machine shop at Bear creek. All the machinery was saved and a larger, better planned building has been erected. The second accident was the sinking of the dredge Northwest No. 1 on Upper Dominion creek. Very little of the machinery was damaged and operation was resumed in a comparatively short time.

The total volume of gravel handled by the five dredges in 1934 was 6,125,185 cubic yards. The season was a long one. All the dredges began operating on or before May 23. Canadian No. 4 was the first and started on May 3. The two dredges on the Indian River side of the district were closed down in the latter part of October, but owing to the mild weather those on Klondike river did not stop until November, Canadian No. 2 continuing until November 28.

A considerable number of individual miners and small groups encouraged by the high value of gold were working during 1934 on the creeks of Klondike district.

SIXTYMILE RIVER

The Holbrook Dredging Company are reported to have continued their operations, on the left limit of Sixtymile river, in the vicinity of the mouth of Miller creek, throughout the season. On Miller creek the operations under Mr. H. A. R. Stewart have been continuing on the N.A.T. concession. Here some prospecting for new ground is reported to be in progress on the channel on the left limit downstream from the old roadhouse. A larger number of individual miners than in recent years are reported to have worked on Miller creek and the neighbouring creeks.

MAYO DISTRICT

It is reported that there has been an increase in the placer mining on the creeks running into Mayo lake and that a number of miners made good recoveries.

A number of men have been working on Haggart creek and Dublin gulch and several of them are reported to have done very well.

Mr. Elmer Middlecoff continued to operate on Hight creek. Lower down the creek at Hight canyon Messrs. Anderson and Ray have opened up an old channel on the left limit with a tunnel, and are reported to be making a satisfactory recovery.

OTHER DISTRICTS

The expansion of the prospecting activities of the Yukon Consolidated Gold Corporation to Henderson and other creeks south of Indian river led to a small rush to restake ground on some of the creeks south of Stewart river, but it is not known whether any find of importance has been made. It is reported, however, that a few individual miners have been working on Thistle, Kirkman, Brewer, Barker, and Scroggie creeks and that some of them have had very good returns for their labour.

A few placer miners are reported to have been working on Britannia creek and its tributary Canadian creek. Others are reported on Rude creek and also in Selwyn River drainage area.

During the last few seasons some placer prospecting has been done on Seymour and Stoddart creeks and their tributaries which head on Freegold mountain. Though it is reported colours can be panned in most of the streams and gulches, and in places low wages may be earned, as yet no locality has been discovered where continuous work seems warranted. During the last season the only placer work was done by Mr. F. Guder on Seymour creek and Cabin creek.

It is reported that in Nansen Creek district a number of individual miners are continuing work.

During the last two years some placer prospecting has been done on the first large creek, above the mouth of, and on the left limit of, the north fork of Big Salmon river. Some gold is reported to have been recovered.

A considerable number of prospectors have been working on Livingstone creek and neighbouring creeks and work, particularly on Cottoneva and Livingstone creeks, is said to have been attended with considerable success.

In the last few years some placer work has been in progress on Iron creek, a tributary of Nisutlin river. The operations have been conducted by the Inca Mining Corporation, Limited, of Carcross, under the management of Mr. L. W. Staples. Mr. Staples has provided the following information. The creek was discovered at the beginning of the century but no work was done until some fourteen years ago when a company headed by a Mr. Bonebreak, who formerly lived in Seattle, installed about 400 feet of pipe and one monitor. They apparently attempted to hydraulic the present creek channel and after two years discontinued their work and abandoned the claims. The Inca Mining Corporation prospected the ground in 1932 and 1933 and came to the conclusion that there was a sufficient amount of gold-bearing gravel to warrant the installation of placer equipment and in 1934 some 40 tons of equipment, tools, etc., were taken in by way of Teslin and Nisutlin rivers. This material was landed on the bank of Nisutlin river 4 miles north of the mouth of a large creek (believed to be called Sydney creek) into which Iron and Evelyn creeks run. Approximately 20 miles of road was constructed from the landing to the workings. Some 6,500 feet of flume and 2,000 feet of pipe-line were built and three monitors were placed on the ground. Seventy-five thousand cubic yards of gravel were moved by hydraulicking before the freeze-up in 1934. The work was started on April 13 and stopped on September 27. During the season twenty-two men were employed and two men have remained to drive a prospect drift during the winter. The results of the season's work are reported to have been satisfactory.

A good deal of activity is reported on the tributaries at the head of Liard river. No information is available as to the size of these enterprises or the progress made during the season. The following list of the claims and leases in good standing and on record at Dawson in August will give some idea of the amount of attention the area is receiving. The positions and names of the creeks mentioned are those given by the miners when recording the claims and leases. Five claims were held on Betty creek, a tributary near the head of Sayyea creek. Fourteen claims were held on Shootanook creek between Sayyea and Cabin creeks, and two on Bedrock creek, a tributary of Shootanook creek. On Sayyea creek thirty-three claims and one mile of prospect lease were held. One mile of prospect lease and two claims were held on Scurvy creek and four claims on Little Scurvy creek a tributary on the left limit of Scurvy creek. Ten claims and two one-mile prospect leases were held on Rainbow creek which enters Liard river 9 miles above Scurvy creek. Six claims were held on Surprise creek, a tributary of Rainbow creek. Dome creek, which enters Liard river opposite Rainbow creek, had six claims held on it. On Caribouhome creek, 30 miles above Rainbow creek, four claims were held. A large part of the operations indicated is probably due to the Northern Aerial Minerals Exploration Company reported to have been actively prospecting in this district during the season, but with what results is not known.

Very little information is available with respect to southwest Yukon. It is reported, however, that a few miners have been working on Bullion, Fourth of July, and Ruby creeks. Some of those on Bullion creek are reported to have done very well. A placer strike is reported to have been

made on Gladstone creek, but its significance is not known. A one-mile placer lease was recorded for James creek, a tributary of Koidern river.

Some placer work was in progress on Squaw creek on the Yukon side, but the results are not known.

The total placer gold production for the year 1933 was 48,967.09 ounces and for 1934 was 48,379.34 ounces. The amounts of gold turned in at Mayo and Whitehorse were considerably greater in 1934 than in 1933, the decrease in total production being due to a decrease in the returns at Dawson. In 1934 the Yukon Consolidated Gold Corporation closed down their hydraulic operations until the dredging ground that the Jackson Gulch tailings will cover has been dredged and until equipment will have been designed that will provide a better flow of water. In 1933 these hydraulic operations yielded 4,970 ounces. If hydraulic operations had been continued the production in 1934 would have shown a marked increase as a result of the large increase in yardage handled by the five dredges of the Yukon Consolidated Gold Corporation and the increase in the activities of smaller operators in all the placer districts of the territory.

LODE MINING

KLONDIKE DISTRICT

A brief examination was made in August, 1934, of the workings of a lode gold prospecting enterprise, the Klondike Gold Quartz Mines, Limited, on Bear creek. The camp (elevation approximately 1,600 feet) is located at Discovery cabin in the valley of Bear creek and is approximately $1\frac{1}{2}$ miles above the Bear Creek camp of the Yukon Consolidated Gold Corporation. A road runs up Bear creek as far as the camp.

The workings are on mineral claim Virgin No. 1 and are located on the west slope of the valley of Bear creek. They include two shallow shafts partly filled with debris, some trenches, and two adits. A small mill said to have had a capacity of approximately 10 tons in 24 hours stands on the claim at the foot of the workings.

The bedrock consists of light green mica and chlorite schists mapped by R. G. McConnell as the Klondike schists.¹

The two shafts (elevation approximately 1,900 feet) have been sunk in bedrock forming the floor of an old hydraulic placer cut made in a terrace remnant of the White Channel gravels. The shafts have been re-excavated to depths of about 6 feet. In the sides of shaft No. 1 (See Figure 1) the northern of the two shafts, three quartz veins are visible. They are 4 to 14 inches wide, strike between 118 and 130 degrees, and dip northeast at angles of 50 to 70 degrees. Shaft No. 2 is about 70 feet south and 30 feet east of shaft No. 1. On the south side of No. 2 shaft there are two quartz veins 9 inches and 14 inches wide and 16 inches apart. They strike 130 degrees and dip northeast at angles of respectively 55 and 70 degrees. Approximately 25 feet southward along the strike two veins are exposed. These resemble and probably are continuations of the two veins seen in No. 2 shaft. The quartz of the veins is dense and white. A very few

¹ McConnell, R. G.: "Report on the Klondike Gold Field"; Geol. Surv., Canada, Ann. Rept., pt. B. vol. XIV (1905).

crystals of pyrite are present in the quartz in places and some iron stain occurs along fractures. It is reported that specks of free gold can be found in fractures in the veins. Possibly this gold has come from the overlying placers.

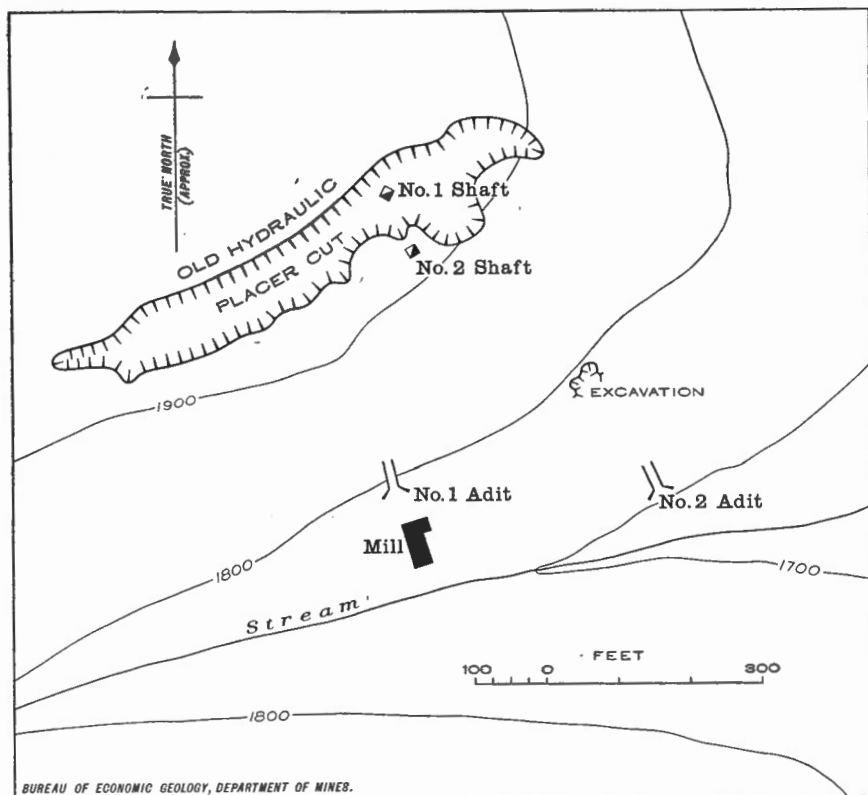


Figure 1. Mining works on mineral claim Virgin No. 1, west slope of Bear Creek valley, Yukon territory.

A large, trench-like excavation about 90 feet lower than and southeast of the shafts, and made where the veins in the shafts might be expected to occur, reveals a mass of quartz float and, in two places, quartz that may be in place. This quartz holds a little pyrite.

No. 1 adit is approximately 110 feet lower than, and 325 feet south from, No. 2 shaft. The adit is 30 feet long and runs northwest directly into the hill. At its inner end a group of small veins, of quartz like that of the other veins described, occur. The veins are 1 to 4 inches wide, occur across a width of 45 inches, strike 125 degrees, and dip northeast at an angle of 55 degrees.

The entry of No. 2 adit is approximately 500 feet southeast of No. 2 shaft and at an elevation of about 1,720 feet. From the portal the adit runs directly into the hill. It follows a course of 328 degrees for approxi-

mately 200 feet and at the end of this distance bends to the northeast and continues along this course for nearly 90 feet. This adit, like the other workings, is in green schists. It cuts across a number of small, corrugated veins and lenses of quartz that tend to follow the planes of schistosity in the schists. In a few places large cubes of pyrite occur in the veins and in the schists. No veins in No. 2 adit were noted to cut across the schists in the direction followed by the veins in the shafts.

This property was examined in 1912 by T. A. MacLean acting for the Mines Branch, Department of Mines, Ottawa. The results of his investigations are contained in "Lode Mining in Yukon," publication No. 222. In 1912 the workings consisted of one shaft, and an adit 10 feet long. MacLean states (pages 43-44) that in the shaft (which was sunk near Discovery post) "the first 8 feet contained but little quartz; with increasing depth stringers and bunches were encountered, and, for the last 10 feet the excavation is largely in quartz. . . . A sample, No. 369, taken clear across the bottom (4 feet wide) panned good colours of gold." Two samples of quartz veins exposed in a trench are stated by MacLean to have yielded gold colours by panning. MacLean reports that in the adit, veins and stringers of quartz are visible and that the face of the adit was about 25 per cent quartz. He took four samples from the adit and states that all showed "colours of gold in the pan." The samples (or it may be parts of the samples) were assayed. As stated by MacLean most of them on assaying were found to carry no more than a trace of gold, but in the case of two samples the gold content was reported to be between \$16 and \$18 (gold valued at \$20 an ounce).

MAYO DISTRICT

The writer is indebted to Mr. A. K. Schillinger of Keno Hill, Limited, Mr. Livingston Wernecke of Treadwell Yukon Company, Limited, and others connected with the district, for the following notes.

KENO HILL

In the early part of the spring of 1934 Mr. A. Robinson carried out some development work on the Nabob claim on the top of Keno hill.

The York Investment Company of Vancouver began development of the Highlander-Bunny group which lies to the northeast of the Lucky Queen mine. They are driving an adit from Queen gulch at approximately the 100-foot level. The adit is to intersect a vein that has been found on the surface. A road to the group and several small buildings have been built.

GALENA HILL

The Treadwell Yukon Company at the end of August, 1934, closed down all their operations, including those at the Silver King and Elsa groups. In 1934, before operations ceased, 1,747 tons of ore had been mined, sorted, sacked, and shipped to the smelter, as well as 657 tons of ore that had been mined in 1933.

Messrs. Brefalt and Tolmie have mined and shipped 76 tons of ore this year from the No Cash mineral claim. The shaft on the claim was continued to the second level and ore is now being sacked from the drift going southwest. In addition, some 40 tons of ore was shipped that had been mined by Mr. E. Bjonnes, who had leased the claim up to last winter.

During the year exploration and development were resumed on the Mastiff claim held by Messrs. Settlemier and Bermingham. Trenching revealed a vein to the northeast of, and 130 feet down, the slope from the present shaft. This is thought to be the continuation of the vein found in the old workings. Some work is being done in the shaft at a depth of 25 feet where a drift extends some 30 feet and crosscuts the vein. In this vein some ore, thought to contain jarosite, has been discovered, which assays as high as 3,290 ounces of silver. This is the highest grade ore discovered on this property, from which some thousands of tons of galena-silver ore has been shipped in the past.

In addition to these activities a good deal of individual prospecting has been in progress during the year, particularly on Galena hill, but also on Keno, Sourdough, and Bunker hills, and 69 tons of ore was shipped by individual miners and groups. During the latter part of the year the prospecting and mining activities in the district were considerably accelerated by the rise in the price of silver and though the Treadwell Yukon Company, who have been the main operators during the last few years, have closed down, it is expected that there will be a substantial increase in the shipments made by smaller operators.

CARMACK DISTRICT

The activity and interest connected with the lode gold prospecting in the vicinity of Freegold mountain have been steadily increasing during the year and were given added impetus by the bonding, by the N. A. Timmins Corporation in August, of two groups of claims held by Mr. W. J. Langham and Mr. A. Brown, and their respective associates. It is reported that other groups have since been taken up, some by the same corporation and some by other companies.

Up to the time of the writer's visit in July, 1934, a large number of vein showings had been discovered on the two groups referred to above and good gold assays had been obtained from many showings. These groups of claims are on the south side of the summit of the mountain, on the steep, irregular slope that faces southwest across Seymour Creek valley. The veins had been exposed in shallow excavations, trenches, and by one short adit. A second adit had been started but had not then intersected the vein it was headed for. The country rock, where these two groups are, is mainly granodiorite, but the lower and eastern parts of the slope are underlain by a coarse, pink porphyry syenite. Several varieties of dykes cut these rocks. The veins are composed mainly of quartz with some carbonate. The quartz is fine-grained and with patches of blue-grey colour due to very fine crystals of sulphides. Other minerals are: pyrite, which is the predominating sulphide, arsenopyrite, and tourmaline. Specks of gold have been found occasionally. The largest amount of work had been done on the claims of Mr. Langham. Here a vein has been picked up in the

adit, trenches, and side hill excavations at fairly regular intervals for a distance of nearly 900 feet and other vein showings that may possibly belong to the same vein would give it a total length of approximately 1,500 feet. This vein varies in thickness from 20 inches to several feet. A large number of assays had been taken from it, many of which gave values in gold of over an ounce a ton and a few 50 ounces a ton. Several at least of the other veins on these two groups appear to be of the same type and good assays have been reported from them. A particularly spectacular find was made early in the season when a boulder of vein material that was probably not far from its original position was found on one of these claims. In it some patches of specks of gold could be seen and a piece of it assayed 142 ounces in gold to the ton.

Since taking over these properties the work of the N. A. Timmins Corporation has been concentrated on constructing buildings for the camp, the getting in of supplies and equipment, and the building of a winter road to connect with the Whitehorse-Dawson road.

On the west side of Freegold mountain, Mr. F. Guder had discovered a number of veins, some of which appear similar to those on the groups of Messrs. Langham and Brown. A few of them have yielded encouraging gold values. His main operations have been on the Margarete and Augusta mineral claims. On the Margarete he had exposed some mineralization by trenching and had sunk a shaft 20 feet on it. At the bottom of the shaft, which was full of water at the time of the writer's visit, he drifted 14½ feet south and picked up a vein 2 feet wide striking east and dipping steeply north. The wall-rock in the drift and shaft is schist and quartzite, but on the far side of the vein in the drift it is reported to be quartz porphyry. The wall-rock in the shaft and drift, as well as the vein, is mineralized with pyrite, arsenopyrite, and chalcopyrite. Of three samples taken from these workings two are reported to have contained approximately an ounce and the third 60.2 ounces a ton in gold. On the Augusta, where the original discovery was made, another vein had been discovered near the west boundary of the claim carrying pyrite, chalcopyrite, arsenopyrite, galena, sphalerite, quartz, calcite, siderite, limonite, azurite, and malachite. The vein matter had been followed by trenching for 16 feet and one wall, thought to be the hanging-wall, was exposed.

On the top of the mountain and on the north and northeast slopes a number of new mineral showings have been discovered on claims held by other prospectors, but only a little work had been done on them.

Recently Messrs. J. H. Carpenter and W. Forbes reported that they had discovered a body of quartz 36 feet wide and extending across three claims on the south side of Seymour creek. Two samples from this body, taken across a width of 30 feet and weighing 2 pounds each, are reported to have run 0.36 and 0.20 ounce to the ton in gold. It is located approximately 2 miles east of the mountain.

Some new staking is reported to have taken place recently on McDade hill where a large vein carrying values in silver, lead, and zinc was prospected in 1932, approximately 4 miles east of Freehold mountain.

TESLIN DISTRICT

A number of lode prospects are reported to be located along Boswell River valley between 14 and 20 miles from Teslin river. The deposits are said to be veins carrying lead and silver as the chief metals of value. A trail leads up the north bank of Boswell river to these prospects.

During the season of 1934 some prospecting was reported to be in progress in the vicinity of a creek said to be known as Johnson creek on the east of Teslin river, between Boswell river and Hundred Mile Landing. The prospects are reported to be 12 miles back from Teslin river. The deposits are said to be veins and a specimen of vein matter seen by the writer contains galena, pyrite, chalcopryrite, and sphalerite in a gangue of quartz. One of several assays said to have come from these prospects is reported to have run: gold 24.5 ounces, silver 11.5 ounces, and lead 15.8 per cent.

Very little is known of the geology of the country surrounding these prospects along Boswell river and to the south of it, but it is known that areas of intrusive granitic rocks occur to the north of Boswell river, on the southwest of Quiet lake, and on the west side of the lower part of Nisutlin river. The distribution of these prospects suggests that they occur in the neighbourhood of the southwest contacts of these granitic rocks.

