

su Bull #1

AIKEN LAKE AREA

by D. LAY

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MILLER CR = KLIYUL CR.

Dear Gene:

Aiken Lake Placer.

The following report is a summary of what is presently known about the placer prospects in the Aiken Lake area.

HISTORY.

Walter Aiken (after whom the lake is named) and a partner took an outfit up to Aiken Lake with packhorses in 1899 and spent three summers and two winters there, coming out in 1901. Mr. Aiken was later manager of the Hudson's Bay Post at Takla Landing and I got to know him well some 30 years ago. He told me they got colors in all creeks and found fair pay particularly in two or three creeks some 9 miles west of the lake. His description of the country tallied with the lay of the land on what we later called Miller Creek in the vicinity of Croydon Creek, as we found it in 1935 while prospecting and staking the Croydon lode property for Cominco. Mr. Aiken said the gold was fine but heavy, the largest piece recovered being about 50¢ (old price), but that the ground was too heavy to work by hand because of boulders. We found two of Mr. Aiken's old campsites in 1938, one near Croydon and the other further east *west?* on Miller Creek. In 1958 after fire had swept the country, we found Mr. Aiken's workings on lower Croydon Creek, quite extensive.

I was in charge of exploration for Cominco for Northern B.C. from 1934 to 1947 and we had a number of lode properties in the Aiken Lake district on which considerable work was done. We were not concerned with placer but made certain observations which have a direct bearing on this. When we drove a long adit tunnel on Croydon Creek in 1937, we got fair colors in the occasional pan from the muck on the floor of the tunnel, particularly near bedrock. On the nearby Porphyry Creek we did some groundsluicing and trenching to expose a quartz vein and noted considerable heavy gold collecting along cracks on bedrock. Some of this was collected and a total of about one ounce was recovered from two cuts representing a bedrock surface of about 150 sq. feet. There were several 25¢ pieces, usually flattened but a few with quartz adhering. There was much blacksand present, and some scheelite. Depth of gravel varied from 3 to 6 feet.

Fred Johnson, a prospector and trapper who spent many years in the area, told me he had found good pay in the gravels above

timberline in the wide summit valley at the very head of Croydon Creek in 1919. Johansen Lake across the divide is named after him. He had difficulty working it because of lack of water. He had only a few swamp puddles to pan out in.

PHYSIOGRAPHY.

The area of interest lies on the border of a mountain massif which drains mainly eastward by Miller Creek to Aiken Lake, and the landforms are those typical of a mature drainage system modified by alpine glaciation and interglacial stream erosion. Local relief between mountain peaks and valley floors is about 3000 feet. The valley of Miller Creek has a gentle gradient of perhaps not over one percent along its lower 6 miles below Croydon Creek. Porphyry and Croydon Creeks are steeper, tributary streams. All three carry a good flow of water, Miller Creek the largest, about the same as Germansen River.

Like most of Central and Northern B.C. the Aiken Lake area has been heavily glaciated. Lower Miller Creek and to some extent, Croydon Creek lie in U shaped valleys which have been widened and perhaps slightly deepened by ice action. The drift brought down by the ice is almost entirely of local origin and had been to a large extent re-sorted by stream action into bench and terraced deposits by the time of the last ice retreat. The gravels on Miller Creek near Croydon and Porphyry Creeks, are fairly coarse and bouldery, becoming finer and sandier on the lower reaches. Remnants of unsorted glacial till containing some silt and clay can be seen along lower Croydon Creek. The depth to bedrock is not very great and was found to vary from 15 feet in the center of Croydon valley to perhaps 50 feet on the flanks. Miller Creek is estimated to have a gravel cover of from 30 to 60 feet. Porphyry Creek has not been glaciated except in the cirque at its head, and is largely the product of stream erosion. It occupies a narrow V shaped valley and runs close to bedrock, except the last quarter mile across the outwash fan into Miller Creek valley. Its gravels are roughly sorted and bouldery, in the form of narrow, sloping bench deposits.

BEDROCK GEOLOGY.

The area is situated along the eastern contact zone of the Omineca batholith and is underlain by Takla Formation greenstones, shales and tuffs which are cut by small stocks of crystalline intrusives ranging in composition from quartz-monzonite to pyroxenite.

The country is well mineralized and show a number of large, rusty outcrops extending for several miles. These contain pyrite with

low gold values. More than 20 quartz veins containing medium to high gold values have so far been found on the various lode claims and most of these veins are situated within the drainage basins of Miller, Croydon and Porphyry Creeks. The gold is either free or associated with sulfides.

PLACER POSSIBILITIES.

The valleys of Miller, Croydon and Porphyry Creeks were formed in pre-glacial times but it can be assumed that any gravels then present, were largely destroyed by the ice. However, it is the opinion of geologists that the predominant erosion cycle took place later, in glacial and inter-glacial times and was done by local alpine glaciers occupying the pre-existing valleys. This is an important consideration because it means that the gold liberated from a mineralized area would be confined to that particular valley, rather than scattered over a wide area. The question which remains to be answered is whether re-sorting of these glacial gravels has produced pay streaks rich enough to be worked. I think there is a good chance of finding such deposits for the following reasons:

1. The three streams under discussion have cut their courses for many miles into a rock assemblage that is highly mineralized and is known to contain a great many veins showing generally high and persistent gold values.
2. Geological evidence shows that the amount of downcutting since the veins were emplaced has been in the order of several thousand feet. It is obvious therefore, that a large quantity of liberated gold has been carried down the valleys, and perhaps not very far because of the blocking action of the main ice sheet in the master valley of Mesilinka River, to ice creep along tributary streams.
3. We know that good colors have been panned along the creeks and that interesting concentrations have been found in at least three places.
4. The geology and physiographic history of the area is almost identical to that of McConnell Creek 40 miles northwest, where bench deposits of re-sorted glacial drift have been worked at a profit. The Aiken area is also essentially similar to the Atlin and Dease Lake placer fields. The deposits of Manson and Germansen areas were also formed at the same time and in much the same way, except that interglacial stream erosion played a greater part.

According to our present information, the most promising places to look for pay gravels would be on the lower reaches of Porphyry Creek, commencing at the old Cominco groundsluice trenches at the mouth of its canyon, then proceeding upstream for about a mile

Aiken Lake Placer, (4)

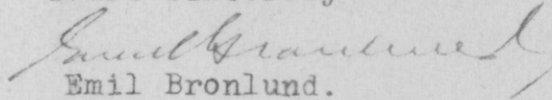
and downstream to its junction with Miller Creek. The upstream part would be suitable for a small hydraulick outfit as the grade is over 5 percent. The downstream part which includes the large outwash fan, contains a considerable volume of gravels which would be workable by dragline or perhaps hydraulick provided water was brought from Croydon Creek one and a half mile away.

The upper reaches and headwaters of Croydon Creek also warrant testing. I have every confidence in Fred Johnson's account of pay gravels there and they may be possible to work by damming and re-circulating local run-off.

Miller Creek below Croydon contains several miles of gravel flats and could well contain pay streaks of fine gold. One of Walter Aiken's prospect camps was located there and he claimed fair prospects but not good enough for hand work at that time.

A program of testing for next summer would call for a central camp somewhere near the junction of Croydon and Miller Creeks. Supplies could be flown in to Aiken Lake and packhorses would be needed for the 9 miles to camp. It is doubtful if a cat and trailer outfit could get in much before middle of July because of high water at Mesilinka crossing.

Yours sincerely



Emil Bronlund.

Fort St. James, B.C.
December 12, 1961.