

KERR ADDISON MINES LIMITED  
44 KING STREET WEST  
TORONTO 1, ONTARIO

Property Submission

93A

File 93A

COPY

Blair Dunham's Placer Claims  
Keithley Creek, Cariboo B.C.

July 14 1964

WSR.  
822316  
R.D.S.  
P.W. ✓  
G.W.M.  
H.A.P.  
C.K.W.  
J.B.S.  
G.P.R.  
K.F.L.  
J.B.  
E.C.

Mr. Clair G. Dunham,  
2709 Marine Drive,  
West Vancouver, British Columbia.

Dear Mr. Dunham:  
Our Mr. Sirola in Vancouver has sent me the data which you presented to him concerning your placer claims on Keithley Creek in the Cariboo District.  
I regret to advise you that our present commitments simply do not permit us to give very full consideration to your property at this time. I hope there will come a time when we are able to give your property the full consideration it no doubt deserves.  
Enclosed are all of the data which you submitted to Mr. Sirola.

Yours sincerely,

*PMK*

Paul M. Kavanagh  
Chief Geologist - Exploration.

PMK:dh  
Encl

*W. M. Sirola*  
William M. Sirola.

cc W. M. Sirola

PS. to Sirola:

*in writing this letter I am of course being prompted by some experience I have which makes me feel that the property is not of much interest to us.*

*PMK.*

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JUL 13 1964

KERR-ADDISON GOLD MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

W.S.R.  
K.C.G.  
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L.B.  
E.C.J.

To..... P.M. KAVANAGH..... From..... W.M. SIROLA.....  
Subject KEITHLEY CREEK PLACER CLAIMS OWNED BY CLAIR DUNHAM. Date..... July 9th, 1964.

Enclosed are a number of typewritten documents and a crude sketch map describing the vicinity of Mr. Dunham's two bench leases, together with some assorted information on the old high channels of the Cariboo, and on the effective glaciation on the placer deposits.

Mr. Dunham seems to feel that his lease covers a high tertiary channel on Keithley Creek on which work has been negligible. Mr. Dunham estimates that there is over a million dollars worth of gold to be recovered from his leases. He estimates the old channel to be about 40 ft. wide and covered with 15 ft. of glacial overburden. Mr. Dunham is not asking for any cash, but would like to see someone do a minimum of drilling, to prove, or disprove his thinking about the calibre of the high channel.

Since I am a complete ignoramus on the subject of placer deposits, I make no recommendations whatsoever, but will simply pass the material on to you for your opinion.

Mr. Dunham would like the material back within a week, because, apparently, there are some Americans who are interested. He states that he does not particularly wish to deal with them.

When you have finished with the material, will you please return it to : Mr. Clair G. Dunham,  
2709 Marine Drive,  
West Vancouver, B.C.



William M. Sirola.

WMS/iw.  
Encls:

2709 Marine Drive,  
West Vancouver, B. C.

My partner and I hold <sup>two</sup> three bench leases on <sup>two head</sup> Upper Keithley Creek. The leases cover the high Tertiary channel, the partial breakdown of which enriched the lower end of Keithley Creek. This old channel is on the side hill 100 feet above the present bed of Keithley Creek. The enclosed sketch, though not to scale, shows the relative positions of the old channel and the present creek.

On the sketch plan you will notice two places marked where there were intensive workings by the old timers. These are at points where the old channel has apparently been broken down by glacial action. There are evidences of workings in between these points, but not to the same extent. On Keithley Creek above the start of our working and the last evidence of any recovery there is no evidence of any intensive workings, but where the line of the old channel would cross Honest John Creek there has been intensive workings in the creek bed of Honest John for about 100 yards, but no indication above or below this place. *I have since found that the channel does not cross Honest John Creek but parallels it.*

We had covered the bed of Keithley Creek from the Falls to above Honest John with two leases to protect ourselves. When we were approached by an American promoter to work these leases on a lay, we let him have the two leases. For two years we urged the Syndicate, which he had promoted, to drill; when they finally did they found no real values from the fall to Honest John. The indications are that the old channel is still in place. With this exception, the Upper Keithley Valley has never been drilled to my knowledge.

We started working at a point on the side hill 100 feet vertically above the last evidence on recovery on Keithley. We used ground sluice, boom dam and tunnel to trace the old channel. The boom dam uncovered the North rim of the old channel and the tunnel was driven to the South rim and then across to the North rim. The tunnel was still in robbed ground where we stopped working on it. From our working we concluded the channel<sup>to be</sup> about 40 feet wide with about 35-15 feet of overburden from bed rock to top of overburden. The gradient of the channel is two or three percent to Honest John with no apparent increase in depth of overburden. The overburden is glacial drift, silt or boulder clay, whatever one wishes to call it, mixed up with slide rock. There was mostly argillite and soft schist with very little wash gravel. The only gravel we ran into was an oxidized type, quite firm. From this in the places where it stuck and when the bed rock was rough enough we recovered coarse gold and slugs from \$7.00 to \$10.00. We did not recover any fine gold. The bed had been thoroughly scoured by the glacial action that broke the rim down.

This same flat type of argillite and schist was found in the workings at Donaldson and at the workings below where we started and had apparently come from the same channel.

The elevation above Keithley allows for plenty of room for any amount of tailings as the spring freshets usually clear any tailings that reach the Creek from the previous year's operations.

Our leases cover 1½ miles of the old channel. At least a mile is undisturbed and, perhaps, more partially in place. From the evidence of the old workings in the breakdown of the channel there is no reason to suspect that it is not as rich as the Onward Channel. Their average was \$400.00 to the running foot on today's prices, using only half their values the channel covered by our leases could produce a million dollars and there is no reason to suspect that these values do not continue.

Water for sluicing can be brought in from Honest John using small back hoes to ditch, or pumped from Keithley Creek. We found that trying to hydraulic this type of overburden is slow and unsatisfactory, and too much loss occurs as the clay robs the sluice boxes. Cleanups usually have to wait until the end of the season and are sometimes caught by bad weather conditions.

Using mechanical means to remove the overburden, greater control of cutting to depth can be exercised with no loss of pay gravel, especially if there is a run of finer gold on a false bed rock. Once a hundred feet of pay gravel has been uncovered sluicing can begin and recovery can follow up the stripping operation so that no time would be lost in recovery and side walls would be firm enough to hold without sluffing until cleanups are completed.

From our work the indications are that the channel is about 39 to 40 feet wide (13 yards) with 35 feet of overburden (12 yards): the top cut would have to be 100 feet wide (33 yards) to allow for the angle of repose, which will work out roughly at 276 cubic yards to the running yard. Say 300 cubic yards, to be safe. Contractors tell me that dirt can be moved on a short haul for less than 30 cents per cubic yard, say 50 cents to be conservative. At \$600.00 the running yard 100 yards of stripping at \$15,000 shows a net return of \$45,000 less clean up costs which are partially taken care of in computing 12 yards depth of overburden which does not take into consideration the possibility of one to two yards depth of pay gravel, or the possibility of a high run on false bed rock.

*Since this was written there had a chance to look over the ground myself and found the bottom flat and the overburden 5 to 10 ft deep*

The leases are at an elevation of 4,000 feet and the snow is quite deep in the winter. The working season is about six months but if operating mechanically could be lengthened by at least a month. June, July and part of August three shifts could be worked stripping and two the rest of the time. We usually got in on the ground in April, but this year the snow was late and it was sometime in May before it was possible to get in.

Our road is in to within one-quarter mile of the leases. There are light drills in the country that can be rented. \$5,000 at the most should prove whether further drilling is necessary. \$5,000 is the only gamble in this proposition as any further drilling is operational expense with assurance enough to warrant it.

*Road now on the leases*

The potentials of Keithley Creek have never been thoroughly explored. Mainly because a lot of knotheads put expensive equipment on the ground on the strength of one or two test holes, giving the country a bad name. The workings of the old timers in the '60's was directed to the exploration of the chances of deep channels, whereas all the indications point to the fact that, unlike the Barkerville area, this is a high channel country.

My work is Forest Engineering and I have made considerable use of aerial photos and am quite familiar with their advantages and limitations. The aerial coverage of the Keithley is not particularly good, but I have studied these photos and in conjunction with ground knowledge it appears that there are several places in the Keithley area that have not been investigated and which warrant a few drill holes to determine their possibilities.

I am quite convinced that proper aerial coverage with a good map made from it would reveal enough rich ground to keep a large operation working for a number of years.

We are not trying to sell anything and are not asking for any down payment, as we are willing to gamble with an operation, but as the initial cost of exploration would be so low the capital investment necessary for operation can also be kept to a minimum as contractors will strip. And, if I am right, the ratio of return to expenses so large that we want a fair return on the gross recovery. I would suggest that you look at the property, size up the possibilities and before you drill we will come to some agreement. In the meantime, I would be interested to know what percentage you have been paying on how rich ground.

Yours truly,

C. G. Dunham

CGD:H

*This was letter I wrote in answer to an inquiry about the leases*

OLD HIGH CHANNELS OF THE CARIBOO

The high channels of Keithley Creek were never investigated like the Williams Creek channel that produced over nineteen million dollars from two and a half miles of creek. This was at sixteen dollar gold and which at today's values would make the recovery fifteen million to the mile.

The enrichment of Keithley Creek was apparently from portions of old high channels which were broken down by glacial action and re-assorted in the later bed. While there is no record of recovery such as at Williams Creek, there apparently must have been some very rich old channels.

The unworked channels that are left today are generally covered by an overburden of glacial drift and blue slum. Experience has demonstrated that water is not the best medium for handling this type of dirt. It is almost impossible to remove this clay without taking a certain amount of pay along with it and in the boxes the slum picks up values and rolls them right through.

Today everything seems to be modernized except placer mining. There are many square miles of ground not suitable for dredging yet rich enough to be worked by proper methods.

Placer mining consists mostly of moving dirt to recover values. First the values have to be ascertained which is quite simple with a Keystone drill. A map is produced showing pay dirt values, depth yardages and yardage of overburden. With this information it is possible to determine whether there are enough values to pay for moving the overburden. With this insurance the only decision necessary is the method. With the number of dams and roads built in the past years, moving dirt has been reduced to a science, so all there is, is the choice of the type of equipment that will strip the overburden down to pay dirt in the most



efficient manner.

Working with stripping equipment instead of hydraulicking, it is possible to strip and wash at the same time.

In the Cariboo the working season for placer is generally from May to December. From May to September it would be possible to work two ~~standard~~ shifts and sometimes three if necessary to get the most out of the equipment.

The upper end of the old channel which enriched Keithley Creek was never opened or worked. Over a mile of it is covered by three bench leases in good standing with more ground available. The point the old channel was picked up and where it veers away from the present creek is about one hundred feet above the present creek level. A slide or glacial action has broken the rim away and robbed this old channel of most of its values for quite some distance. Old timers say the two acres of creek bottom where the slide was reassorted was extremely rich.

Also from this point there are no indications of any working or values recovered further up stream. The only indications of work are in a small creek crossing the old channel.

A drilling program on Keithley between these two points showed no values of any account indicating that the old channel is still in place and intact.

This start of the old channel was worked with ground sluice, boom dam and drifting. Wherever the ground flattened out or was rough enough, some coarse gold and slugs were recovered, but this was still in the area affected by the slide.

In this working, the indications are that the old channel is about forty feet wide and that there is about <sup>15</sup>thirty feet of overburden (mostly glacial drift).

How rich it is only a drill will show. We have nothing to sell as we merely wish to form a working partnership, on a percentage basis, with an outfit that has the proper type of equipment to work the ground.

There is a road to within quarter mile of the ground. An aeroplane drill is available for rent now and a few thousand dollars will prove to anyone's satisfaction the richness of the ground and the feasibility of working.

Glaciation by Galloway

(Provincial Bulletin)

It is assumed that at the close of the Tertiary period there were a number of rich and continuous placer deposits in various areas of British Columbia. Then the Glacial Age arrived and immediately much havoc was created with the placer deposits. In the large part they were obliterated and the placer gravels transported far and wide, the gold content being so admixed with barren gravels as to make them of no economic value, though at times the glacial streams roughly resorted and partially concentrated the gold in these same gravels.

The most important feature of placer geology in B. C. is the effect of glaciation. It is the cause of many perplexities, and the lack of knowledge of glacial geology is the reason that so many ill-advised placer ventures have been attempted, with consequent financial failure.

It has been asserted that all bonanza placer deposits in B. C. were either in original Tertiary gravels or in gravels which represent a direct reconcentration by Glacial or Post-Glacial streams of original Tertiary gravel.

Placers in B. C. may be broadly divided into the following classes.

1. Original Tertiary Gravels. Only remnants and fragments of these are left and in following a Tertiary channel it may be cut off abruptly; this sudden termination is due to erosion by Glacial. They occur in bed rock and are usually buried beneath glacial gravels. This is the "lead" gold of the old timers.
2. Interglacial Gravel Deposits. In many instances these gravels are deposited on a previously deposited glacial clay but may occur on bed rock. These are derived by interglacial stream-action concentrating glacial gravels robbed from original Tertiary channels.
3. Post-Glacial Gravel Deposits. The Pleistocene or Glacial epoch scattered enormous masses of gravels across the country and particularly in the main stream channels. In the zones of original Tertiary deposits these glacial gravels contained more or less gold, but almost always the original placer gravels were so diluted with

Glaciation by Galloway (Cont'd.)

3. Post-Glacial Gravel Deposits. (Contd.)  
extraneous material that the final depositions of glacial gravels were of no economic value as placer deposits.

Variations of these three types occur, but in a broad general way the classification includes all placer deposits in the Province. In some cases ancient channels have been left stranded through diversion of the water by glaciation, covered by glacial gravels, and later these ancient channels were robbed by later stream action giving rise to rich placers in the present streams. This was well exemplified by Keithley Creek, or in part by Lightning Creek.

*Extracts from Bulletin No. 1 1921*

*By John D. Galloway Provincial Mineralogist*

ADDENDA ON PLACER DEPOSITS

(From B. C. Memoir 149 - Johnston and Uglow)

Placer Deposits

The gold placers or pay-streaks occur in five different ways:

(1) They occur in ancient stream gravels resting on bedrock and in many cases buried beneath great or small thicknesses of glacial drift. These placers are by far the most important in the area and constituted the rich pay-streaks in the beds of the creeks, that were mined out, for the most part, in the early days. The gold-bearing gravels on bedrock vary from a few inches to 10 or 15 feet in thickness, averaging perhaps 5 or 6 feet, but in places nearly all the gold is directly on, or in cracks and crevices in the bedrock. This is specially the case in places where the gravels are loose, porous and not clayey. Where the gravels are clayey and contain numerous partly disintegrated fragments of the country rock, the gold is likely to be scattered through them.

The gravels on bedrock consist of water-worn but somewhat angular fragments of the country rock and in many cases include large masses of rock known as "slide-rock", apparently an ancient talus. The gravels were usually described by the miners as "flat wash". They are characterized in places by the presence of heavy minerals and rocks as pyrite, galena, scheelite and barytes. Residual gravels, that is, gravels consisting principally of a resistant rock such as quartz, are present only in very small amounts.

EXCERPTS FROM VARIOUS SOURCES (Cont'd.)

(Placer Deposits - Cont'd.)

The pay-streaks on bedrock are best developed in the narrow, deep parts of the creeks and do not occur to any great extent in the wider, upper parts near the sources of the creeks where valley glaciation has been very pronounced, nor are they very rich in the wide, deeply-buried lower parts of the creeks. The pay-gravels, in part at least, were deposited in pre-Glacial time, but were reworked, to some extent, by stream action in Pleistocene time.

The gold in the rich pay-streaks was mostly coarse. It was referred to by the miners as "lead gold"; by which was meant a mixture of well-worn, coarse gold and moderately fine gold. There is comparatively little very fine gold in the area.

GLACIATION BY BONNER

(from Mining and Engineering Record, Jan. 15/23)

Valley glaciation would have cleaned out Keithley so effectively that it would have retained none of its gold. Instead we find the trek of the ice sheet depositing the boulder clay along the left bank of Keithley and this clay would later creep down the declivity. Glaciation would denude the valley of Cariboo Lake of its Tertiary deposits and scoop out the present basin constituting the bed of the lake. Though the depth of the lake is around 135 feet, the basin was probably scoured to a depth of about 600 feet. Keithley Creek, left as a hanging valley of say 200 feet, would be rejuvenated from lake level to its present deep channel, classified by the Geological Survey as Tertiary, but certainly not so.

The rejuvenation of the master stream of Keithley in turn rejuvenated its tributaries of Main Snowshoe, French and Little Snowshoe Creeks. Yet miners have wasted and are wasting their lives hunting for the deep channel of Snowshoe and other Creeks, when the existence of such channels under the geological condition there obtaining is a physical impossibility as will be seen from the accompanying sketch showing the evolution of Keithley in the North Arm period, the hill channel or Swamp River period and the present or Cariboo Lake period respectively.

EXCERPTS FROM VARIOUS SOURCES (Cont'd.)

QUESNEL RIVER WATERSHED

(From Mining & Engineering Record, February 15/23)

The Quesnel River is the largest drainage basin of the Cariboo. Its north fork drains the eastern side of the Cariboo gold belt including Cunninham, Harvey, Nigger and Keithley Creeks and the south fork drains the southern side including Quesnel and Horsefly Lakes. Its course to its confluence with the Fraser River is northwesterly, paralleling the drainage basin of Cottonwood and Willow River.

Prospectors following the Fraser northward struck gold on Quesnel River in 1859 and mined it all the way to the confluence of the north fork with Cariboo Lake at Keithley, the workings being mainly on the bars, though some of the old river benches, 100 to 150 feet above the river, paid well. The gold was found to be very different from that of the later discoveries in northern Cariboo, being finer. For some years the river afforded profitable diggings to some hundreds of Chinese. Rich ground was discovered and mined on some of the tributary gulches and on the south fork where it debouches from Quesnel Lake.

Keithley Creek is the most important gold bearing stream draining the Cariboo Schist area on the south east. Mr. Borland who came to Keithley in 1862 informed us that the production of the Creek has been around \$5,000,000.

Keithley Creek takes its rise in the meadows in the same peneplain which forms the common headwater of the auriferous stream of the Barkerville section and drains the Cariboo Schist zone on its southeastern extension. The main creek is about 10 miles in length and has its outlet in the South Bay of Cariboo Lake where it forms a large delta. The main tributaries all heading from the north are Snowshoe and its extensions, Little Snowshoe, French Snowshoe, McMartin, Weaver and Four Mile Creek.

Keithley Creek was the fourth richest in the Cariboo, being surpassed only by Williams, Lightning and Antler Creek. Mr. Borland who was part owner in the claims, informed us that in the Onward and Grotto Claims at the mouth of the Creek there was ground which returned \$200.00 to the running foot. 200 feet on the Onward produced \$40,000. The average production was 6 to 20 oz. of gold per man per day.

EXCERPTS FROM VARIOUS SOURCES (Cont'd.)

(Quesnel River Waterbed - Cont'd.)

The depth to bed rock on the main creek was 20 to 23 feet. Difficulty was experienced in working on account of water. In addition to the channel of the present creek there are two old channels which have been successfully worked by drifting, and a bench 100 feet above has yielded good pay by hydraulicing.

Of the old channels, one is near the level of the present stream, which is intersected and enriched by it at points where it is at a higher elevation. At other places this old channel is lower than the present, and when it has been worked it has given good pay by drifting. The higher channel is about 120 feet above the present and meanders across both sides. There are two runs of gold, one which is coarse and lies in bed rock, the other is fine and is recovered from overlying silts.

*Personally it appears that there were two high channels one on each side. The south one on which we are was ~~never~~ never located at the lower end*

On Bowman's map of the lower reaches of Keithley and parts of Snowshoe Creeks made in 1885-6 is shown an old channel meandering across the stream bed of that time. Most of his work was concentrated on lower Keithley to Snowshoe and up the Snowshoe to Yanks Peak area. There may have been some work on Upper Keithley above Snowshoe, but it is not indicated on his map though he does show the old channel as coming in from Upper Keithley.

Johnston and Uglow might have been looking at our work on Upper Keithley from their description of Tertiary channels, as the features are so similar.

The Tertiary Channels of Williams and Lightning Creek were mostly deep channels. The reports say 65 feet to bed rock in most places. The reported recovery from Williams Creek was over 19 million dollars from 2½ miles of creek bed and that was at \$16.00 gold. Apparently they did not pay any attention to the high run on the false bedrock as the Doodle Bug operation working on this run today is doing very well.





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