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ROYAL COMMISSION
ON
STATE HEALTH INSURANCE AND MATERNITY BENEFITS

PROVINCIAL BUILDINGS,
VICTORIA, B.C.

August 16, 1929

H. B. Thomson Esq.,
Union Club,
VICTORIA.

Dear H.B.:

Missed you when I called at your office today, and had some work on so that I couldn't wait for your return or go back.

The enclosed memorandum and accompanying documents will explain the whole thing.

I should very much like to interest someone substantial in the offering Williams and his associates have, particularly as I stand to make a little something if it works out successfully.

Would appreciate it if you would give the proposition your consideration, and I will then see you and talk it over.

Please give me a ring if you have time to look it over and have me call on you tomorrow or on Sunday.

Sincerely yours,

C. J. McCarthy

Enclosures

PROPERTY FILE

936C54

MEMORANDUM FOR MR H. B. THOMSON

Re. Hixon Creek Placer Claims:

Some few weeks ago Mr G. C. Hinton, returning from a visit to the North, spoke to me of the seemingly favorable possibilities of certain placer claims on Hixon Creek, Cariboo Mining Division. In consequence I wrote to the gentleman controlling same, Mr D. G. Williams of Prince George, whom I have known for many years. I received a reply from him a week or so ago. His difficulty is stated to be financing, and he solicited my assistance in bringing the proposition to the attention of dependable people without publicity. The property consists of five (5) creek and three (3) bench claims along Hixon Creek, which is situate twenty-eight miles southerly from Prince George and thirty miles northerly from Quesnel. Hixon Creek is a tributary of Government Creek which flows into Canyon River and thence into the Fraser River neat White's Landing. The property is close to the grade of the P. G. E. R. where it cross-ses Government Creek, and a wagonroad has been built in to the claims by the owners, 4½ miles, over which access may be had to the property by motor at any time. Most of the property has been held during the past twenty years by a Vancouver syndicate who put a price of $500,000 on it, but displayed no special activity either in development or in securing a purchaser. The five creek and three bench claims are now offered at $200,000, with twenty-five (25) per cent of this price cash and the balance in stock, the cash payment to be spread over three (3) years. I can secure an option at a merely nominal figure, pending examination and verdict

PROPERTY FILE

on the prospective value of the property.

Attached are copies of reports made by A. M. Davis, now in charge of the Bullion Mine, Cariboo, and by Edwin C. Bloomfield, A.E.R.S.M., A.M., the former as a result of personal examinations in 1915-16, (AND DURING SEVERAL PREVIOUS YEARS) his report being dated February 16, 1916.

When these reports were made, all Hixon Creek was owned by the Vancouver syndicate referred to; depression of the post war period interdicted their securing capital, and it would appear that they held too high. It cost considerable to hold the leases and members of the syndicate got lax in compliance with the terms of the Placer Act. The ground being recognized as rich, two local men secured Claim 2188 in 1919 or thereabouts and have lived on it ever since, washing gravel when in need of money, with returns (I am informed) of from 50 cents to $5.00 to the cubic yard.

About two years ago two other men secured Leases 2177 and 2183 and considerable work was done on 2177. A sawmill man, inexperienced in mining, sank two holes through the boulder clay to the Old Channel, which proved very rich. From what was obtained from the holes before they filled with water the gravel was estimated to go from $50.00 to $75.00 to the cubic yard. These two claims are now under option to W. A. Lewthwaite and J. D. Breeze, who have a force of men on the ground and have begun to pump the water from these holes, and do such other work as they are advised is necessary.

Douglas Lay, Resident Mining Engineer, speaking during July last before the Prince George Board of Trade, said that

he regarded Hixon Creek as one of the major possibilities of the Cariboo. There are also many references to Hixon Creek in past reports of the Department of Mines. Alluding to the theory that placer gold is the erosion of veins in past ages, the 1886-9 Report says at page 237:

> "A similar system of ledge crosses the head of the paying portion of Hixon Creek and little Snowshoe Creek .... about the relations of these ledges to the wealth of the adjacent placers, it would seem that there can be no reasonable doubt."

See also Mines Report 1927, P. 163.

The syndicate for whom I write owns five claims on the creek, the last including the fall on the creek, providing ample facilities for the disposal of tailings.

Owing to the accessibility of the property, cars can convey men and material right to the ground. With abundant water and economical method of disposing of debris, they should be operable at low cost; and, if the richness of both top and lower gravels is so great as claimed, and with even the so-called boulder-clay giving up its wealth easily by disintegration in water, the property apparently should prove a profitable one with use of a comparatively small working capital.

One experienced placer man has estimated that $50,000 would be ample to put the property on a profit paying basis.

Yours very truly,

Attached:
Reports and Sketch-map

C. H. GIBBONS

REPORT OF A. M. DAVIS, HYDRAULIC EXPERT

The property is in Cariboo District, B.C., famous for its rich placers, its extensive system of ancient river channels and immense deposits of high grade auriferous gravels. It is situate on Hixon Creek, which has its source in the Cariboo Range of mountains that divide the valley of Willow river from that of Canyon river.

The property consists of 13 hydraulic leases of approximately 80 acres each and three creek leases of about 50 acres each, aggregating nearly 1,190 acres and embracing all the auriferous gravels in the present bed of the creek and on both sides for about 4½ miles from its mouth and for a total width of 2,300 ' on each side of the creek. The present valley of the bed of the creek has a width varying from 100' near the falls to over 500' farther upstream, and has a natural fall or grade of about 5% and showing in places on both sides great cut-banks or hills of gravel from 150' to a height of over 300', from which a great many pan prospect s were washed and in nearly every case colors of gold were found, in some pans quite numerous and of fairly heavy quality, sufficient to show beyond any doubt the auriferous character of the gravels. (Note - The present offering is of five of the claims along the creek and three bench claims).

There are two falls near the mouth of the creek, one of 80' and the other about 40', and as the Creek forms a junction with Government creek just below here, the conditions are such as to make an excellent dumping ground for all tailings and debris passing through the sluice flumes.

The ancient creek-channel covered by these leases is one of immense proportions, the deposits varying from a few feet to over 500' in depth. From the top of the hills to the bottom of the creek-channels the quantity of high grade auriferous gravels that is available for washing by the hydraulic process is estimated at 72,000,000 cu. yds. and will required a period of between 65 and 70 years to work out with the quantity of water already acquired. (Note: Unlimited water can now be made available)

The deposits of this great channel can be attacked and successfully exploited at three separate points: One at Robb Gulch on the "G" lease; one at or near the lower line of the "K" lease; and again by opening a hydraulic pit below the first fall, on the south side of the creek.

The average gold value is moderately estimated at twenty (20) cents per cu. yd. and the total gold content at $14,400,000 (Note: This is exclusive of the content of the old channel, now believed to contain from five to seven times as much as the surface gravels

This information and data were obtained by myself from personal observation and investigation, from actual tests by panning and rocking, and by the ordinary methods of sluicing and washing operations, and from a long and intimate knowledge of the capabilities of this district and of this kind of mining operations in

particular. I have either worked in or had charge of nearly every producing mine in the Cariboo, as well as having had considerable mining experience elsewhere.

Hixon creek was discovered in the early "70's" and paid well for some years. The whole surface of the valley of the bed of the creek was shovelled and washed in sluices, and although the work was done in a very crude and primitive manner, it had very satisfactory results, gold being recovered to the value of from one ounce to five or six ounces per man per day, the gold being of very high quality, some pieces weighing as high as three or four ounces. In fact one piece taken out in this vicinity was worth something over nine hundred dollars ($900.00) (Note: Although certain parts of the creek have been washed as here stated, many parts are still virgin ground. Two men have been working on Lease 2188 for about ten years and are still getting from 50 cents to $5.00 per cu. yd.)

While the existence of this large and high channel has been surmised or thought to exist, its position has never been defined and no attempt to develop or exploit it has ever been made in a systematic manner. This was due chiefly to its isolation and the prohibitive cost of getting in equipment and supplies, there being absolutely no way of reaching the mines excepting by a very difficult and almost impassable trail which necessitated the crossing of two rather large and turbulent rivers, it being only possible to ford these rivers during the very driest part of the summer season. Consequently, except for the primitive and superficial work of the individual miner, the whole of this immense auriferous deposit with all its original value in gold content, remains untouched; and my experience has shown that all the creeks of the Cariboo where such conditions have prevailed have yielded large and profitable returns on the outlay necessary to install modern hydraulic machinery.

It was in 1892 that I first visited this creek on a prospecting expedition, and after spending some weeks in testing and examining various parts of the creek, with very satisfactory results, I left because of the unfavorable and difficult transportation problem, but with a full appreciation of the possibilities of the section and a determination to return when these difficulties should have been overcome. It was at this time that I saw a Chinaman shovelling gravel, twice, to a height of twelve feet into the sluices, and making from ten (10) to sixteen (16) dollars a day.

In 1904 I was there again and did more careful and systematic prospecting of the creek-bed, benches and cut-banks. I append hereto a partial detached statement of pan prospects obtained by me at this date.

I was there again in 1906, obtaining favorable results. During the summer of 1912 I made several open-cuts, ran a good tunnel, sank one shaft over 50' deep and one about 15' deep, besides sinking a great many test holes from 3' to 12' deep, and washing or panning the material from test-holes from 3' to 12' deep, finding colors almost invariably in every pan, varying from a few fine colors to several large ones weighing five or six ounces each, and some even larger (as per sample). This class of gold is easily

saved in all hydraulic mining operations without the use of quicksilver or specially constructed machinery.

One open-cut excavated was 3' deep, 6' wide and 80' long, from which all the gravel (about 53 cu.yds.) was washed, and from which approximately five (5) ounces of gold was recovered. This cut is in the north side of the creek and about 70' higher than the present channel of the creek, and is on "G" lease. A tunnel was started into the hill at the end of this cut, on bed-rock, and was run for about 22' when the bed-rock was found pitching into the hill and was finally lost, thus proving the existence of the great auriferous channel on the north side of the creek. The amount of gravel taken from the tunnel and washed was about 28 cu. yds., from which about 1½ ounces of gold was recovered, or about $1.15 per cu. yd. Pan prospects on the bed-rock showed from five (5) to ten (10) cents per pan.

As at this point water was met with in the face, and it being rather loose ground, the tunnel was stopped and another small open-cut made on the side. The total amount of gravel taken from the cuts and tunnel and washed was about 100 cu. yds., from which over seven (7) ounces of gold was recovered.

Two shafts were also put down during the season on the top of the hill, 180' higher than the tunnel, and about 250' higher than the present creek-channel. The first is about 100' back from the face of the hill and is 15' deep. All gravel and every pan washed showed colors of a fine but heavy nature. The second shaft was started about 200' farther back again, on the same hill, at a little higher level, and is about 700' back, or north, of the creek bed. It is over 50' deep. In this shaft, after sinking a few feet through surface soil and gravel containing a small amount of gold, we met and passed through about 30' of boulder clay, then a few feet of loose-washed gravel, after which we had about 10' of the regular coarse, heavy, bluish gravel, carrying high values in gold -- as much as two cents per pan being obtained in this gravel. As this shaft was put down so far from the creek, it was impossible to wash all the material that came out, but as in the case of all our other prospecting, every pan washed showed colors, from one to two fine ones up to sometimes even twenty or thirty and as high as two cents. As there was quite a lot of water coming into the shaft and we had no adequate means of handling it, and owing to the lateness of the season, we stopped work altogether for a year and came away satisfied that sufficient prospecting and work had been done to prove that there is here all the essential requisites of a profitable and successful hydraulic mine.

In regard to the boulder-clay mentioned in the above shaft, I may say that it is one of the surest indications of an old channel and of a deposit of auriferous gravel. It is identical with the clays that overlie nearly all the rich alluvial deposits of the Cariboo country, and its presence is always taken as a sign of immense possibilities. (Note: Two test-holes have lately been put down on Claim 2177 through this boulder-clay and an old channel discovered, with very rich gravel, running from $50.00 to $75.00 per cu. yd.)

Williams Creek, which was probably the richest placer creek

ever discovered, paying over $1,000 per foot over a large part of its course, and which produced considerably more than $30,000,000 in less than five years, was covered to a depth of 80' in places by this same kind of boulder-clay. Mosquito Creek, producing over $3,000,000 in less than two miles, had as much as 30'. Lowhee, Jack-of-Clubs, Lightning, Grouse, Stout Gulch -- in fact all of them had more or less of it.

Mr Amos Bowman in his Reports (Geological Surveys 1887-8) speaks of these clays and their connection with the older deposits of auriferous gravels, and as a leaflet published with his Report has come into my possession, I am attaching it to this Report as it explains this matter in a better manner than I can.

During the summer of 1913 I again ran an open-cut near the one made in 1912 and washed about 100 cu. yds., from which was recovered nearly six ounces of gold, the largest piece being $4.50. A number of new cuts were also made on the several leases downstream and several on the high banks of the "I" and "J" leases. One hole on "I" lease from which one cu. yd. of gravel was taken and washed, gave a return of $2.50. Some pan-prospects were taken from the hill at an elevation of 300' above the creek, all showing gold values, from a few fine colors to several coarse ones of one cent or more. (Note: The War came in 1914 and hence little has since been done on these properties; work was recommenced August 10, 1929, on Claims 2177 and 2183 by W.A.Lewthwaite and associates.)

From the result of this exploration and previous prospecting, I conclude that the gravel in these hills, benches, and this great channel will average at least twenty cents (20 ¢) per cu. yd. While the prospects obtained indicate a much greater value which the opening and development of the mines will prove, and while recommending that No. 2 Shaft be continued to bed-rock to ascertain the proper point or level at which to commence washing or hydraulic operations, this is not absolutely essential, as I am quite satisfied from my investigations that there is here a very large deposit of high grade auriferous gravels at least 150' deep, and believe that sufficient work has been done and proven to justify bringing on water and installing the pipe lines necessary to develop and work the property.

. . . . .

There is a large and almost unlimited supply of water obtainable at any time it is needed or desired to be brought on or to the mine. This, while it would shorten the life of the mine, would assuredly increase the annual production in direct proportion to the amount of water used.

Referring again to the boulder-clay, I should like to point out that where at Hixon Creek there is only 30' of this material, Mr Hobson at Bullion has had over 30' of boulder-clay besides 60' of indurated volvanic mud to contend with, requiring quantities of dynamite to break it up. For instance, in his list of operating expenses, is an item of $21,148.20 for explosives. At Hixon Creek $2,000 would be a very ample estimate, and actual operations might show half that amount sufficient.

In 1896 I had charge of and operated a hydraulic mine at

North Bend, during which season the expenditure for explosives was absolutely nil, as we did not use any and the total cost of washing and running off the gravels did not exceed two (2) cents per cu. yd., the duty for the amount of water used (about 700 miner's inches) being rather less than 2½ cu. yds. per inch.

Washing and mining operations usually can be commenced about April 1 and continuously carried on until the end of October or beginning of November, making a working season of seven and a half or eight months.

(Note: Mr Davis reported on thirteen hydraulic leases , 980 acres, and three creek leases, 50 acres; the present offering is of only five creek leases and three bench claims. According to the size of the present creek claims there are only ten claims between the two falls so that the present owning syndicate would seem to have about one-half the creek ground and all the bench ground included in Mr Davis' report -- hence some of the figures he gives as to the ground have been omitted.)

Number of washing days per season, approximately	180
Amount washed and run off per season ---	1,080,000 cu. yds.
At an average daily cost of ----------	$150.00
Total operating cost per season of 240 days --	$36,000.00
With estimated daily revenue of --------	$1,200.00
Total estimated recovery of gold per season	$216,000.00
Estimated profit per season ----------	$180,000.00

Study of the figures will show that this property has all the material essentials of an excellent hydraulic mine, a large and extensive area of high grade auriferous gravel, with great depth, an unlimited supply of available water, excellent dumping ground and favorable grades, together with abundant timber close at hand suitable for all purposes, which, with careful, competent and efficient management, should make it possible to work it at very low cost per cubic yard, thereby reducing operating costs to a minimum, and I hereby submit it as the best hydraulic mining proposition I have seen in all my experience of thirty years.

Respectfully yours,

(sd) A. M. Davis

Victoria, B.C.,
February 16, 1916

REPORT OF EDWIN C. BLOOMFIELD, A.E.R.S.M., A.M.

(PERTINENT EXTRACTS ONLY)

.... The deposits consist of teriary gravels lying upon slates of the paleozoic age, which dip at a steep angle. By far the greater quantity of gravel lies above the present drainage system, and these gravels only are considered.

Quantity of Gravel: There are many millions of cubic yards of gravels lying above the present drainage level. The actual quantity cannot be determined without exploration. The bench leases embrace some thousand acres which for the greater part of their areas are covered with gravels to a considerable depth. On the "C" lease the depth of gravel approximates 150' to 200' where exposed on the south side.

Value of Gravels: There is no doubt that these gravels, taken as a whole, are auriferous, for colors can be obtained by panning at almost any place where they are exposed, and prospects are decidedly encouraging.

There is no reason to doubt the results obtained by Mr Davis in the work already done by him. The creek gravels have been worked extensively, especially at places where it is possible to work to bed-rock; this augurs well for the property.

It is not to be expected, however, that the gravels will be auriferous throughout their entire extent, but bodies of barren material such as boulder-clay of the glacial period, may be looked for.

Regarding the actual gold content, this cannot be determined without considerable exploration and testing, which could be done by means of a churn drill, which (with proper supervision) would be accurate and would be the cheapest and quickest method, for which reason it is recommended.

Method of Working: It has been suggested that these gravels be worked by the hydraulic method. The physical conditions, such as dump, height of banks, etc., could not be much better.

Re Water Supply: . . . From information obtained by me from a government surveyor, it appears that the altitude is sufficient and the quantity of water available will permit of operations being carried on on a large scale.

It has been proposed to install a small plant, using Hixon Creek water, to test and work the ground on a practical scale, instead of spending money on drilling.

Without expressing any limitation on the result of such operations, this could be justified in the same way that a small test dredge is often built and operated as a preliminary to more expensive work.

In my opinion the property is worthy of thorough testing and extensive exploration ....

(sd) Edwin C. Bloomfield.

DEPARTMENT OF MINES

THE GOVERNMENT OF
THE PROVINCE OF BRITISH COLUMBIA

OFFICE OF THE RESIDENT MINING ENGINEER
HAZELTON

Office of Prov. Mineralogist
Rec'd. NOV 13 1935
Referred to
Ans'd

Nov. 8th 1935.

DEPT. OF MINES
Rec'd NOV 13 1935
Referred
Ans'd

Dr John F. Walker,
Provincial Mineralogist,
VICTORIA, B.C.

2293

Dear Sir,

re Hixon Creek (Cariboo) Gold Ltd.

You will have no doubt noted from my October News-letter that in October the above company commenced hydraulic operations on the "G" lease of this company, that is on Lot 52 G1 wherein mineral rights are at any rate owned by Quesnelle Quartz Mining Co., Ltd., that is to say mineral "in place".

This is disputed ground, and I understand that notice of trespass was served upon Hixon Creek(Cariboo) Gold Ltd by Quesnelle Quartz Mining Co.Ltd.immediately the former commenced operations.

This dispute does not concern me directly, but I wish particularly to point out that if the placer company can sustain its claim to the placer rights in this region, then unquestionably the outlook of the placer company will have very markedly improved.

You will recall that I wrote you at some length concerning this property earlier in the year, and if you will kindly refer to the last paragraph of my letter of April 2nd last you will note that I stressed the importance of this particular piece of ground to the placer company.

The importance of this ground lies not only in the fact that it presents the most clear-cut objective that this company possesses, per se, but this elevated rock-bench 75 feet above the creek, vertically, offers just the required impervious medium off which gravels up to the top of the valley rim may be piped irrespective of whether there is a pre-Glacial channel lying buried in the right bank of the creek at this point or not.

I append a postulatory cross-section at this point to elucidate my text.

I might add that immediately adjoining this rock-

PROPERTY FILE 936054-07

bench downstream there is quite a deep gully which affords an excellent channel whereby tailings may be diverted to Hixon creek without causing damage or annoyance to the Quesnelle Quartz Mining Co., Ltd.

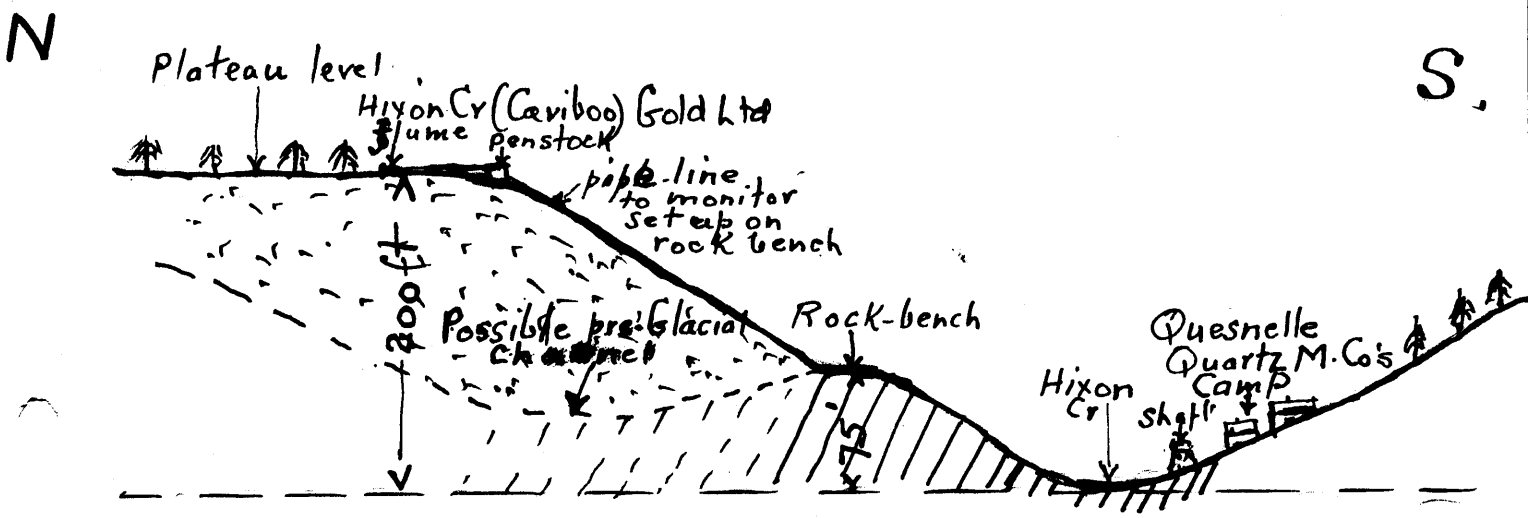
I am,

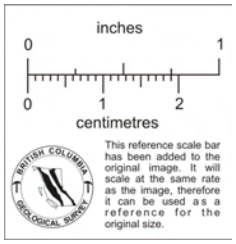
Yours faithfully,

D. Kay.

Resident Engineer.

Postulatory cross-section.





DEPARTMENT OF MINES

THE GOVERNMENT OF
THE PROVINCE OF BRITISH COLUMBIA

OFFICE OF THE RESIDENT MINING ENGINEER
HAZELTON

DEPT. OF MINES
Office of Prov. Mineralogist
Rec'd. APR 8 - 1935
Referred to
Ans'd

April 2nd 1935.

969

Dr John T. Walker,
Provincial Mineralogist,
VICTORIA, B.C.

Dear Sir,

re Hixon Creek (Cariboo) Gold Limited.

I beg to say that I have just received a telegram from Messrs Locke Lane and Nicholson of which I enclose copy and also copy of my reply thereto.

I do not know of course whether you will feel disposed to hand these enquirers a copy of my 1934 Annual Report or not. I imagine that you will not do so unless you simultaneously hand the officials of the company a copy.

In any case my report will, I think, be of little use in supplying Messrs Locke Lane and Nicholson with the information required.

I endeavoured to outline the essential features of the economic aspects of Hixon creek on page 161 of the 1930 Annual Report.

Apart from the question of water-supply commercial aspects must hinge largely on the question of hydraulicking bench gravels, inasmuch as owing to inadequate gradient of the bed-rock of the creek, straight hydraulicking of the creek bed cannot be followed.

As to the bench-gravels:- Those of the low-lying description which flank both banks of the creek, were, I should imagine, largely rock benches (the rock in this creek valley as is described in detail in my reports is very deeply-rotted) originally overlain with very productive gravels which engaged the attention of the earliest miners on this creek, and which of course are largely worked out. It is quite possible however that some may yet be found which escaped the eye of the early miners, but clearly they will be quite exceptional, and cannot be considered in a survey of commercial aspects, save as a side-issue. There may also be portions of benches worked by the old-time miners , which

the latter under the then conditions found unprofitable but which could be worked profitably today. This can only be determined by systematic testing.

As to the higher-lying bench gravels:- Ordinarily on viewing gravels benches in a creek valley one might be justified in assuming that any values would be found to be superficial, occurring on or near the top of each bench or terrace, and that the heart of such benches consisting of more or less barren glacial débris would not constitute pay ground. Such an assumption is not, I think, justified in the case of this valley, because, there is evidence pointing to the likelihood that glacial débris may hide gravels overlying true rock-benches or former pre-Glacial channels of this creek.

It is my understanding that this company stresses the importance of the bench gravels on the right bank of the creek 2 miles or so below the point at which they made a preliminary monitor set-up last year. In this connection I might say that at the property of Quesnelle Quartz Mining Company at about 75 feet above the creek level, a well-defined rock-bench is exposed in which rich quartz stringers were found, and there is every suggestion that a former channel segment lies largely buried at this point. Hence downstream from this point as far as the falls (2 miles) it is a reasonable conjecture that other segments of a channel of this age may be existent overlain by glacial debris. Quite possibly also, inasmuch as it is a known fact that during Tertiary times , rejuvenation of Hixon creek occurred at several different times, segments of other channels may be found older or later than the one cited above.

I could not say to what extent the officials of this company have actually tested the various benches on the creek, but they apparently deemed the results sufficiently encouraging to warrant hydraulic installation. My opinion, ab initio, was that Keystone-drilling was necessary (as expressed in the 1930 Annual Report) preceded by the usual small-scale testing. The point at which Keystone-drilling is not in my opinion necessary is on the ground of the Quesnelle Quartz Mining Co. (My understanding is that the old Crown-grants held by this company by the way, convey placer-rights as well as lode-mineral rights but I should be glad to have your advice on this point).

It is just possible that an old river channel may cross Hixon creek immediately above the falls. Canyon creek valley near Hixon creek was probably in Tertiary times occupied by a river-channel of some kind, but whether this was a Fraser river channel or the upstream continuation of the Horsefly river

is pure conjecture, and it is just a possibility worth bearing in mind in connection with Hixon creek. If it is the case, the bed-rock in the vicinity of Hixon creek falls must lie at great depth, and any commercial possibilities visionary in the light of present knowledge.

Besides the bench-gravels of Hixon creek, the indications are that at the north end of the property of the Hixon Creek (Cariboo) Gold Limited, a channel of the creek lies buried below the present level of the creek, on the north side of the latter; and at the south end of the company's property by the falls, a former channel of the creek may lie buried on the south side of the present creek. In both these cases keystone drilling is a necessary pre-requisite to determine commercial possibilities.

I might say that 2 or 3 years ago, before the formation of the company under comment, I met Mr Chas. Reid on Hixon creek He was at that time engaged in testing the ground by the falls, and at that time I went over the creek with him in a rough reconnaissance, and I pointed out to him various features, and endeavoured to make clear that in a glaciated country it could not necessarily be assumed that because the top of a gravel bank showed encouraging values such values would be found within the body of the gravel. I think, therefore the Department has done everything possible to afford all available information to the executive of this company.

As to the water-supply:- Hixon creek is quite a large creek, subject of course to great fluctuations, but I imagine the Water Rights Branch of the Department of Lands would supply exact fugures as to measurements made. I note that in the Bulletin of this Department they assign a water-power site of I630 h.p. minimum to 4890 maximum. I would imagine that a head of several hundred feet is assigned to a prospective installation, and that utilization of Resevoir lake for storage is contemplated. I would imagine that with the head available one cubic foot of water per minute would yield about I horse-power, and that therefore the flow is from I630 cubic feet per minute to 4890 cubic feet per minute , or in round numbers from 50 tons to I50 tons per minute. Assuming the very best monitor performance, at least 30 tons of water would be required per cubic yard of gravel piped, so that at low water, piping rate would be about I 2/3 cubic yards per minute , say somewhat over 2000 cubic yards per 24 hours continuous running.

I have deemed it advisable to send you a night letter

today, confirmation of which is also enclosed, as you may have been approached by Messrs Locke, Lane and Nicholson. My remarks in the last paragraph refer of course to total water in the creek, and not to any rights possessed by the company of which I have no knowledge, but on page I5 of brochure issued by company dated Sept. 22nd I934, it is evident that available water-supply is not of the major order.

With regard to the statement mad in Messrs Locke Lane and Nicholson's telegram as to a "crazy deal":-

You will note from paragraph 7 of page 9, and from paragraph 5 of page I4 of above-mentioned brochure, that the portion of the company's ground deemed most promising by its executive technical staff, lies west of the property of Quesnelle Quartz Mining Co., i.e. on the company's placer leases 229I, 2293, and 2296, and apparently it is such ground which is the company's objective. Further, to render hydraulicking of this ground possible, it is stated that the present water system, flume and ditch line must be extended another 2 miles- quite a project, and obviously , at ny rate to my mind, should not be undertaken, until very thorough testing of the ground in question has justified the project. There are also details of the technics of hydraulicking to be considered, which may of course not have been overlooked by the company's staff. For example, if the proposition is to pipe off a bank of gravels, then there must be some impervious layer on which the sluice-flume head-end can be laid, or gold will not enter the sluice. It is possible of course to pipe off a false bed-rock by skilled piping. You will note that testing of this ground was done under the supervision of Mr Chas. Reid during I933 (paragraph 5, page I5 of above-mentioned brochure).

I have no idea as to the extent of this testing or of the results gained by Mr Reid. If that testing was of the superficial order, correct interpretation of results gained would necessarily be largely dependent upon knowledge of placer occurrence in a glaciated country generally, and upon detailed field-study of this particular creek. You will note that in the brochure on page 5, last paragraph but one from bottom of page; on page 9, paragraph 7; and on page I5, paragraph 7, "millions of yards" of auriferous gravels are mentioned, but no figures are given supporting such estimates.

As expressed in the I930 Annual Report page I6I, my opinion is that very thorough testing - detailed field-study first, then superficial testing, and finally Keystone drilling if warranted by preliminary testing- was advisable prior to plant installation. As matters now stand, and since it seems to be

evident that water-supply will not suffice for really large hydraulic operations, my opinion is now that before embarking upon additional ditch and flume construction, this company would be well-advised to undertake really thorough testing by way of preliminary to avoid any "crazy deals".

Finally, you will note that the map on page I2 of company's brochure, appears to show placer leases over the Crown-grants of Quesnelle Quartz Mining Co. If it is the case that these old Crown-grants convey placer rights as well as lode-mineral rights, I do not understand how placer leases can be granted covering such.

This is a most important point, to my mind, because it is on this ground, undoubtedly in my opinion , that the most clear-cut placer objective is exposed, and it is on this rock-bench ground that one would naturally commence hydraulicking if no impediment offered. In this letter I assume that the Hixon Creek (Cariboo) Gold Co. does not own this ground, an assumption which seems to find some confirmation in the statements in the company's brochure.

I am,

Yours faithfully,

D. Lay.

Resident Engineer.

P.S. I might add that the amount of residual material in Hixon creek valley resulting from deep Tertiary decay affords convincing proof of the <u>entire absence of ice erosion.</u>

D.L.

APR 6 1935