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BUREAU OF MINES  
Office of Prov. Mineralogist  
RECD JAN 13 1930  
Mr. John D. Galloway  
Provincial Mineralogist  
Victoria, B.C.

Quesnel, B.C.  
January 4, 1930

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Dear Mr. Galloway;

Enclosed you should find a copy of a recent report I have made on the "Tertiary Channel". It is written for the layman but covers the essential points.

Just before Christmas I was in Spokane and tried to get in touch with you, as I would have very much liked to have talked over placer with you, but you were away and I could not wait. While in Spokane, I was able to make arrangements for a drilling campaign to be carried on at Canyon Creek during 1930 and expect we will definitely find out the possibilities of this channel. It has been a very slow job, proving up this deposit, but I am very hopeful of the outcome.

One of the most interesting features, resulting from our work at Canyon Creek this year, is the realization of the three channels systems of the Fraser in that locality, corresponding with the three in the upper country. I have taken the liberty of calling the deep channel the "Dawson Channel", as it is so often spoken of as the "Dawson's Fraser River Formation." The depth of this channel of course, we do not know. One hole drilled on it near Purdy's on the Cottonwood, failed to get bedrock at 110 feet. It seems logical that it would belong to the same drainage system as the channel in the Horsefly on which, the 500-foot shaft was sunk.

Another interesting point about the work we did the past year, was the tilted formation at Canyon Creek. In the report, I have attributed this deformation to glacial thrust into an open valley to the west. While there are points to substantiate such an idea, too little has been done yet to establish the point. It is very possible that the deformation may be due to subsidence and, if such is the case, any information gained in that regard will be of benefit in trying to trace other channels, when making allowance for their grades.

There is some indication of a tributary to the

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"Tertiary Channel" at Canyon Creek, coming from the direction of Abhau Lake. I have not, however, had the time to look over the ground thoroly in this regard.

We have in the Cariboo considerable evidence of these old channel systems. To enumerate a few instances, there are the high run along the Quesnel River near Falls Creek, Ward's Horsefly, Hobson's Horsefly, Cedar Creek, the "Tertiary Channel," and also the old McPhail property near Bonanza. There are these and more besides. Each, when considered by itself, commands a certain amount of interest but, I believe, much more attention would be paid if these various isolated showings could be linked together together in their proper systems. With the data at hand, it is almost impossible to make an intelligent attempt in that regard at the present time. For that work, a topographical map is, of course, of prime importance. With the exception of the P.G.E. grade, I have found it impossible to secure definite points of elevation, which might be of use in that way. Over a period of time, it would be of service to have the elevations of channel bedrock wherever known.

There is very little evidence of deep glaciation in this lower country and, I believe, many of the old channels lie intact below the glacial overburden. As there is much granitic rock thru this section, the possibilities are that much of the ground will be cemented and therefore, mineable by drifting only. This feature may apply only locally, as found in Hobson's Horsefly. We do however know that there are good possibilities of getting "pay" ground, if we can find these old channels in place. I know of no evidence, which would tend to prove that the early Tertiary channels of the Cariboo did not exist for as long a period as did the like channels in California, and, while the Cariboo gold-bearing zone is not as extensive, as is the case in California, the rock formation here would indicate just as rich placer here as there.

I have, for the past two years, thru our Federal Member, endeavored to get the Geological Survey to make a thoro map of the district as a whole and to follow it up with map of rock structures and outcrops and then to go over the district thoroly covering the placer, endeavoring to trace the extensions of the known deposits and connect the whole, as far as possible, in drainage systems. The result I have in mind would be along the lines of Lindgren's "Tertiary Gravels of the Serra Nevada of California", U.S.G.S. Professional Paper No.73. The above sounds like a big order but I believe that much could be gained by such work. It would greatly facilitate the exploration of these old channels, which, without doubt, will furnish the future placer production of the province.

Mr. John D. Galloway -3

While the Survey have shown interest, nothing has been done. Our Federal Member will again this year make representations to the Survey but he will need support and, if you can see it that way, I, as one of the placer mining community, would greatly appreciate any support you might be able to give him.

Sincerely yours,

*Ronald J. Spence*

*P.S. Am sending report under separate cover - R.J.S.*

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Cariboo Syndicate

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January 13th, 1930.

Donald E. Fraser, Esq.,  
Mining Engineer,  
Vancouver, B.C.

Dear Mr. Fraser:-

\* I was very interested to get your letter of January 4th regarding your "Tertiary Channel." Next week, I will see Dr. Cockfield, in charge of the Geological Survey in Vancouver, to make preliminary recommendations regarding geological work in British Columbia during 1930. I will be glad to recommend your proposed work for Cariboo, which I may say is also endorsed by Mr. Moore.

Undoubtedly there are considerable opportunities for locating buried channels in the Cariboo and about the only hope of much placer gold output in the future is from these old channels. So it is a matter well worth following up.

I am glad to hear you are to go ahead with a drilling campaign for your Tertiary channel.

I quite agree with you that glaciation did not erode deeply, but simply took off oxidized material and moved surface gravels and clays. The rich placer deposits of the Cariboo were formed by very long erosion in Tertiary times and an extreme concentration in ancient rivers and creeks. These Tertiary gravels were in part obliterated by erosion by glacial and post-glacial action.

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However, many remnants of these channels probably remain intact and they offer the best chance of future placer gold production.

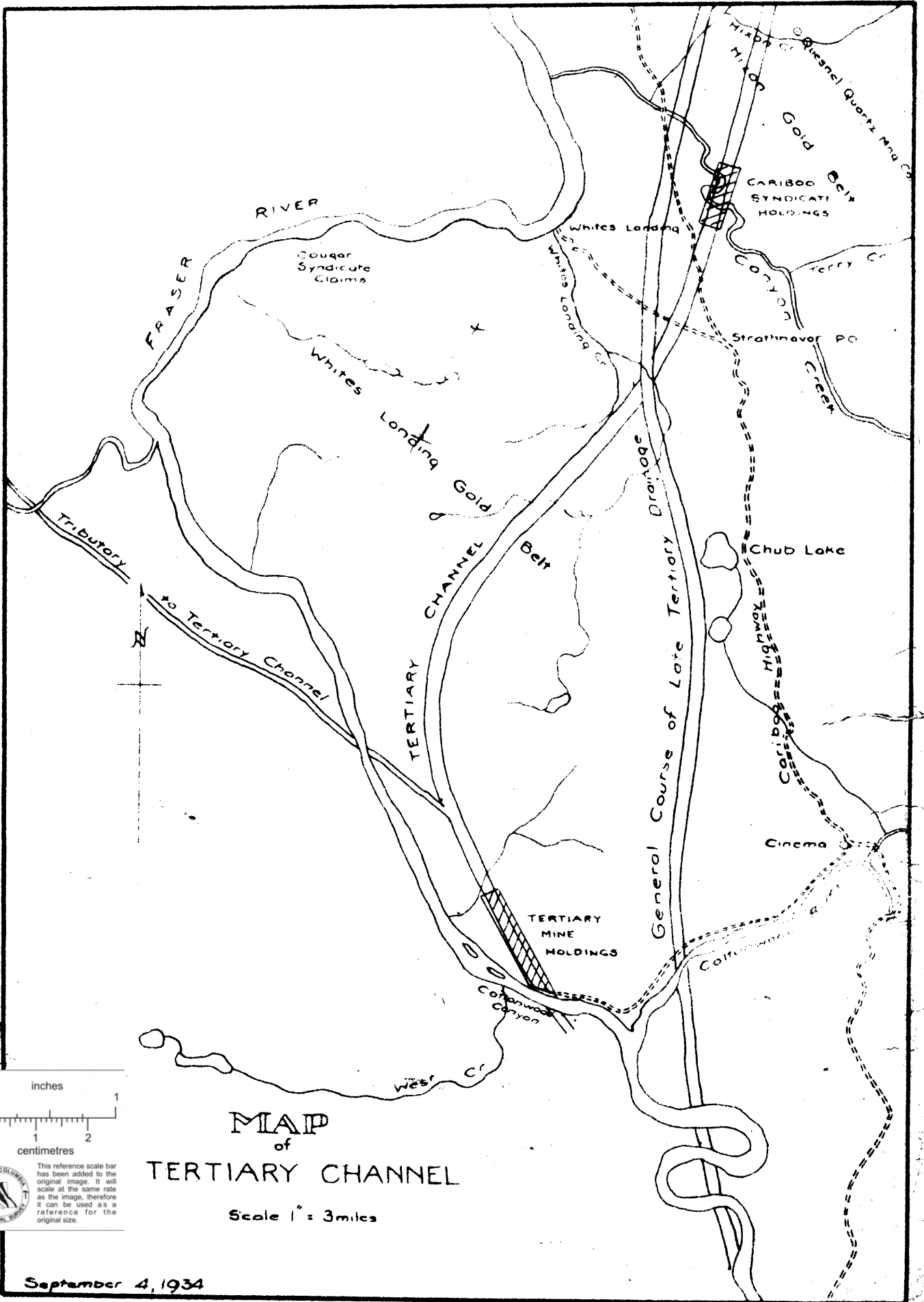
Thanking you for your letter and with best wishes for your success,

I am,

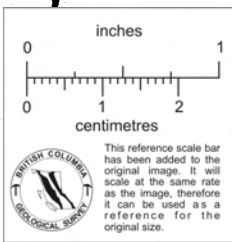
Yours very truly,

Provincial Mineralogist.

JTC:HD



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MAP  
of  
TERTIARY CHANNEL

Scale 1" = 3 miles

September 4, 1934

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