

C O P Y

August 3, 1933

Mr. E. A. Austin
Fairbanks
Alaska

Dear Mr. Austin:

Re: Quartz Creek Examination

I am enclosing herewith copies of telegrams exchanged between us and the Yuba Associated Engineers since my last letter to you in connection with the proposed Quartz Creek dredge. I am also enclosing a copy of my letter to Mr. Cleavland dated July 17th, with which I forwarded various Bucyrus drawings covering the 5 foot dredge equipment available here.

On July 31st I telegraphed you in regard to the examination as of that date, a copy of which telegram is also enclosed. Since July 31st we have completed four holes, that is, four additional holes have been calculated and placed on the map, though the drill is actually averaging pretty close to two holes a day at present. The attached pencil sketch shows the location, number, depth of muck, depth of gravel and calculated value per cubic yard in cents for all holes put down up to August 1st.

I also enclose a tabulation of the drilling results for the Month of July which is, I think, self-explanatory. Under the heading of "Value per cubic yard" I have shown first the value in cents per cubic yard on a basis of a 15 foot minimum digging depth. The bedrock on Quartz Creek varies a great deal from very soft to very hard. Values in places extend five to six feet into bedrock. It will be impossible to accurately dredge to the depth of pay alone, that is, digging two feet of bedrock in one place and six feet depth a few yards away. I am therefore assuming that in the area covered by these drill holes we will have to dig to a minimum depth of 15 feet and a maximum depth of 20 feet over the entire area. For instance, notice hole No. 5. It will hardly be possible to dig 14 feet only here, with values extending to 17 and 17 feet in the holes 200 feet on either side of No. 5.

The values shown in this first column cover everything from top to bottom, that is, include the deposits of muck still remaining on the surface in spots in the ground sluiced area and extending at least a foot below the last pay found in bedrock.

The second column covers the values for gravel and bedrock only, disregarding the surface muck and also disregarding

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the probable necessity for digging a minimum of 15 feet. The third and fourth columns show the values in the gravel and bedrock respectively, disregarding overburden and barren bedrock below the pay level.

You will note that holes No. 1 and No. 5 apparently struck old workings. You will also note that where any appreciable depth of surface muck remained, the ground was still frozen.

So far I have not attempted to do anything outside the ground sluiced area as it seems more important at present to cover as much ground as possible in the shortest time. It seems fairly apparent, however, that the values must extend outside of the ground sluiced area, particularly along the lower part of the creek. It is also apparent from the sketch attached that the best pay is along the left limit of the cut. Values in the vicinity of Toronto Creek on the left limit are particularly good and there is probably a secondary concentration at this point. With good, workable values in the stripped area, the problem of efficient and economical working becomes a little more complicated. I have tried to consider the proposition from all angles, taking the creek as a whole from the mouth of Indian River up to the mouth of Canyon Creek, with various schemes involving both upstream and downstream working. After it was all over, I was right back where we started, that is, to work upstream from Claim 45 with a small, flume type dredge, the general plan of operation being somewhat similar to that now being used on Upper Dominion Creek. This, of course, leaves about 3,000 feet of the lower end of the creek with no immediate prospect of being worked. It is quite possible, however, that we may be able to combine this strip of Quartz Creek with a similar shallow area on Indian River, stripping all of it with water pumped from Indian River.

It would, of course, be much more satisfactory from a stripping point of view if we could start a dredge at the upper end of the creek and ground sluice downstream well in advance. However, the grade of Quartz Creek is such that I do not believe this would be practicable with a flume type boat. The water supply is also limited and we will certainly have to build brush dams behind the dredge to insure adequate flotation. This will be further complicated by the necessity of ground sluicing and possibly thawing the pay area on either side of the present stripped section. In any case, pumping from Indian River would present no very great difficulty and the water could be used for ground sluicing both above and below the dredge.

I have had the existing Quartz Creek flume and ditch gone over with the idea of possibly putting it in commission this Fall and doing some additional ground sluicing in the vicinity of where it is proposed to build the dredge. The condition of the ditch is such, however, that little use could be made of it this Fall; also, the bulk of the ground sluicing.

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will in all probability be required on the left limit, which would necessitate taking the water across the creek. It is obvious that if a dredge is to be started on Claim 45 next summer, we must have an area immediately ahead of the boat stripped the full width of the pay streak. I am therefore having the transmission line put in shape and rigging up a high pressure nozzle pump, which I hope to get in operation before the end of the month. All electrical equipment, pumps and piping have been stripped from the Quartz Creek properties years ago and it is slow work getting things started.

Another question which has given me considerable thought is the maximum digging depth of the dredge. As you will see from the log sheet, values in some cases extend 6 and 7 feet into bedrock. In several instances bedrock is soft and shattered for at least 10 feet. The gravel varies from 7 to 15 feet in depth in the present area. In most cases it appears as if the values did not extend to great depths in the bedrock under the deepest gravel but we have no assurance that this is anything more than a coincidence. For safety, I advised the Yuba engineers to design the dredge for a digging depth of 20 feet below the water line. This, of course, involves a longer ladder and bucket line with a consequently larger hull, and I should very much like to reduce it to about 16 or 17 feet. If no more deep gravels are encountered as we proceed upstream, this may be possible. However, I figure that it would be better to have a little excess digging capacity and depth until we are absolutely certain. Please wire me any suggestions you may have on this point.

The barring operations on Quartz Creek indicate that where the ground has been completely stripped it is thawed to bedrock. Where small patches of muck were left, which are now grown over with brush, the ground is still frozen. It is quite evident that where the ground is thoroughly stripped a year or two in advance of operations, no difficulty will be experienced with frost. I have stopped the barring operations and I am now using this crew for brush cutting, particularly along the edges of the stripped area.

The drill is making good progress, working two ten hour shifts. Movements are frequent and constitute a large percentage of the over all drilling time. There are five men on the drill crew, five on barring and brushing, one foreman and a cook on the job at present.

Yours very truly,

(Signed)

R. E. Franklin



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