MOTHERLODE \& SUNSET GREENWTOD BC.

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MR. W. I. NELSON
MR. A. E. PIKE
Res Motherlode and Sunset Claims - Greenwood. B. C.

Dear $\mathrm{H}^{1} \mathrm{r}$. Nelsons
I have studied the correspondence from $M \mathrm{r}$. F . A. Cowing and re-examined the data of Mr. Jo. W. James in regard to the above property.

As mentioned in my report of August 15 th , I felt that the property had possibilities, providing the tonnage and grade astimates of Mr. Cowing could be substantiated. The data and correspondence to hand, in my opinion, fails to substantiate ${ }^{1} r$. Goring's estimates.

We are therefore left with the choice of having to spend a good deal of money to determine the amount of ore that could be wined by Cuamying as originally planned. Such work would include the reopening of the old workings down to the 200 level so that the workings could be surveyed and sampled. In addition, diamond drilling would have to be carried out, especially in the ares south of the shaft, to determine the extent of the ore body in that direction, and also to determine the amount of overburden and waste rock that would have to be removed before quarrying could begin.

The cost of equipping the property with a suitable mill at this time would be very high, and I can only concur with $\begin{aligned} & \text { I } r \text {. Bailie's }\end{aligned}$ suggestion that the logical time for our Company to place a mill on the property would be when our own equipment might be available, and the properky ${ }^{2}$ git then be operated as a selvage operation.

I feel that the considerable expense necessary to deter mine the probable available tonnage is not warranted at this time.

I would therefore appreciate your decision on the property, together with your instructions as to whether or not I should return the property data to Kr r. James.

Yours very truly,

A. E. Pike, Exploration Engineer.
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Leijt: Motchuldo Data.
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Sample "3

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Mr。W。I．Nelson，
Allenby，$B, C$ ．

## Dear Mr．Nelson：

Your belated reply to my letter of August 23 rd received，the tenor of which is not in accord with my ideas on the subject．

Firstly，I have had about 45 years of operating（including copper blast furnacing） and examinations for such people as Geene Cananea，New Jersey Zinc and W．Po Hammon and do not make bald statements．

I wish however to correct your deductions about values of $0.9 \% \mathrm{cu}$ ．in the ore I am astonished that you assume that production figures are $100 \%$ of the contained values． The Bo Co smelter record show the following：Tons smelted 3，772，723 2 bs Cu＊produced 67，627，575．Smelter feed $1.234 \%$ Cu．or 24.68 lbs per ton．Recovery 72． $8 \%$ of Cus and about $87 \%$ of Au 。 The average gold head appears to have been $0,049 \mathrm{oz}$ ．with recovery of 0.0426.

Regarding Par． 3 of my letter of August 23，the volume of the open glory hole is about $3,800,000$ tons，subject to an allowable error of $10 \%$ ，while the total tons mined from the Motherlode，including the sorted rejects is about $4,400,000$ tons or 600,000 tons more than the capacity of the glory hole itself．This latter tonnage must therefore have been mined from the ground below the present bottom of the pit．This more or less limits the tonnage taken from levels below the 60 Ft ．level．In regard to this I have fairly complete maps of the lower levels showing stopes，chutes，etc．

I have interviewed men who have worked at the property and Frank Skeels，whom you may know of with St．Jo．lead，now living at Los Gatos and who was at the time quarry foreman，assures me that no selective mining of any type was practiced or was possible．

Regarding the shaft block，I used the foot average of 13 holes，an addition of 5 to those you mention，of a total footage of 736 ft for an average of $1.27 \% \mathrm{cu}_{\mathrm{o}}$ and ax $9 x 0.059$ in $A u_{\text {．}}$ However，I combined these with mine assays of the area，resulting in a combined average of $\mathrm{I}_{.} 166 \% \mathrm{Cu}$ ．and 0.058 Au ．In calculating the third block of about 800,000 tons which I quoted you as having Au． 0.046 and Cu． 26.8 Jbs，I combined the samples shown by James with averages derived from assay records of the B．C．Company．

As to the tonnage estimated for the shaft area，which you give as a possible 386,250 tons，two facts are：one that the collar of the shaft is below the level of some of the ore of the hill above it to the spar east and secondly I assumed a difference in elevation of 140 ft 。 between the 60 ft 。 level and the 200 ft 。 level．

In connection with tonnage，in my report on the $M_{*} L_{0}$ my ertimates of positive ore for the block you mention is 550,000 tons and in connection with the ore north，I quote from my report as follows：＂In further clarification of the tonnage figures used，the sbuthern portion of the glory hole to a point about 300 ft ，north of the shaft is apparently uncaved to the 200 foot level，although containing some stoping．On the other hand the portion of the glory hole northerly from this point was affected by the large blasts used，so that the ore in this area is diluted to a certain degree．This is in large part due to slides from the easterly side of the pit．fihis ore accordingly，with contained waste will necessarily be of lower grade than the value assigned to it from assay records and may be found to vary from 0.75 to $l_{.0 \%} 0 \%$ in copper＂As this applies to the blocks designated as probable or indicated ore，it does not affect the ore estimated as more or less positive or sampled＂．

Aside from the above, which I have written merely for the purpose of correcting improper deductions, I have formerly in writing both Mr。 Whicher and yourslef requested that I be informed as to your definite interest in the projeft and also in particular, whether you would consider participation from capital here. I have had no response to this.

It is for this reason, a matter of some indifference to me whether Granby cares to give further consideration to the venture, but I wish to make it perfectly clear that you cannot accept production as representing head values.

I an very truly yours

Copy to Lo Ea Whicher Fo A。 Gowing
ASB
KCF
AP
File

Mr. Fofo flowing
Twedn Haxbe
Casitormin
Dear 1tr. Gowringa
We hava had an onginawr Juapeot the Hother lade and Sunset Hinos at Grevarwoa, 0 ot. with a view os posidble operations. Oue enghnorx had a baZk with Dhe dow. jazns
 you based zowe satimate of the arade axal tonnages avadiable In the glory hoie and in the blook of ground staroonding the Hother Lade shaft. Apparentily you were the last enginaer who was able to sample on the 200 toot lavel betore caving stopped acessa to these workings and theraiore you ara the only one who has axthontia data on what pilleus and ather ore there ixight be available.

Could you supply us with the detalls of your ese timate of the $2,450,000$ tons estimated to be availabla above the 200 toot level, particularly the iteas of $2,350,200$ tons on the south end of 1 bis glory hele and the 400,000 tons above the 50 foot lovel of the Suaset orebody giving grades also for the various blocks.


As instructod, I contacted the Apex cold Mining Co. Ltd. at 626 Gest Pender 5t. in Vanoouver regarding the above properties. This address is that of iannas and Arnold, a law $\$ 1 \mathrm{rm}$, and is the registered office of Apex Gold Mining Co. Ltde.

I was reforred by that office to Mr. J. W. Jamas of 1996 . 7 . 41st Ave. In Fancodver. He apparently xepresents theApex Compny in the netter of any deal. A vialt was made to $k$. James, who mas quate complete data in the way of maps, arill logs etc. Hie gave the writer some of the early history of the property and was quite convorsant with the correspondence between W.A. Cowing or Twain Fiarte, California, and our Company. Ie knew of Mr. 0. H. Campbell's report in our illes (产255) and the large discrepancy between Campbell's figures of available tonnage and that estinated by bowlag. James olaims that Campbell told him thet the Iigures were not based on axamination, but that they were ficures recelved from the operators at thet time. James also stated that campbell made an examination a for years ago and arrived at a tonnage in excess of 1,500,000 tons.

Should auch be the asse, then the report in our file is ingecurate and misleading. It should be noted in this regare that in 1916 some 255,000 tons wore shipped from the Mother Lode and 10,000 tons from the Sunset, sad I believe ghipments were continued in sowe degree ap to 1920 . The kinister of ines report for 1915 quotes the Genersl Wanager as stating that the "total ore reserve under present conditions 1 s 100,000 tons". It would appesr that the ore tonnage was under-estinated in view of lator shipments.

A set of plans shoming the clad緮 boundaries, glory-hole, level workings and assay plens of dumps was loaned to me by th. Jexes.

On August 10th a trip was made to the property by the $\operatorname{writer}$ with 1 . Dey as asaisteat. The purpose was primarily to proeure suitable samples for mill tests and to check the district with reference to a possible mill site location and the availability of power ama water.

Tivo samples, each akout 250 pounds, wero taken and delivered to Allenby. One sample wes taken from the south end of the glory hole some 75, north of the shaft, while the secand sample was taken from the main dump at the Motherlode. Both showed faisly hoavy mineralization of pyrite, Hagnetite, and sotse chalcopysite.

In considoring possible mill sites, it is felt that if aufficient tonnage can be aepured, then a mill raght woll be located close to Greonvood and the ore tracked from the aine, the mill location near creenwood offers the following ddvantages:

## -2-

2. Close to West Kootenay power.
3. Close to weter which could be taken fron Boundary Greek.
4. Close to O.P.i. for shipping concentrates.
5. Miniman of surface plant as no accomodation would be required for employees.
6. Close to labous supply.

A brief raconnaissance of the area suggests that a poasible favousable infll site wight be on a lon ridge on the north east side of Deadwood Creek just behind the old sinelter stack. The site is just alongside the road up Deadwood oreck to the mine, making it easily aceesmibla and about $\frac{1}{8}$ mile from areenwood. The aree is clear and there is $11 t$ the overburden on the rided.

Water might be taken in part fron Doedwood Creek and the balance pumped froin Boundary Creek. The status of weter rights on these ereeks would heve to be ohecired with the Comsisuloner of 位ter Bights.

2lectrie power 1 s readiy avalable as the site lies only a fev hundred yards from the ${ }^{\text {lest }}$ Kootemay sub-station, where transformer capacity is far in excess of local demand. No rate for power could be obtained in creenwood but oan be securad from Mr. Lee at Trall.

From the proposed site there is a railroad grade dom to the C.P. N. tracks for onvenient loading of conoentrates.

The question of suitable teilinga disposal will require surveying near the aite above the old slag pile. It appears that if the water in Deadwood Creek can be used or flumed that the draw of the areek aould be fillad with tailinga. Other draws close by could also be filled to fake a quito large tomage. Fio atteapt was sade to dotermine if such land wes omod by individuals, as it was thought that any such local enquiry at this time would be 121 advised.

The road to the property from the proposed mall site is about 3 milas long. This road, though nariow, ia in good shape, with low grades up to the old town of Deadwood. From Doadwood up to the property the road grade is ateaper but is steady at about 10 to $12 \%$. The road is mostiy hillside and could easily be widened in most places. There is also the old railway road bed about 5 rilles long with a grade of about four percent which could be used, especially for loaded trucks. There are at least two trestles, however, which would have to be rebuilt or the draws Illied.

The suggested systea of open pit mining is quite feasible and would allow for the reclaiming of the old dumps. A road could be cut dom into the bottom of Deadwoot Graek from the road to the Motherlode wich would allow the main Motherlode dump to be taken. From the old ore bins near the shaft to the edge of the areek draw however is a tlat area $250^{\circ}$ wide, and it is not known how much overburden covering the bed rock would have to be removed to get to the ore. From the data to hand, it is also not known how far the ore extends south from the shaft. It is known, however, that the 500' level bottomed the ore body.
C.iV. S. Tremaine of the Healey kascot 00. has shown an interest in the property and is in possession of much date supplied by kr. James. The Eodley liascot 60 . as such are not interested in the property. Tremaine, on the basis of information supplied by James, made the following estimate of ore reserves in the shaft area at the Wotherlode above the 200 level.

Ore
Tons
413,400
Grade
1.51

Dilution
Tons Grade 67.580
0.37

Loss 30,000 ? removed in shaits, tunnels ete. 333,400 tors ${ }^{2} 2.51$ su. 0.05 ozs . au, and 0.20 ozs. ag. plus 67.580 tons of dilution $0.37 \%$

450,980 tons $2.34 \%$ copper.
ne estimated as probable 400,000 tons on the aump 0.038 ozs.au. 0.21 ozs. Gg. and 0.748 copper, and in addition an sstimated 100,000 tons in the elory hole of a grade of plus 0.75 每 copper.

Tiith terference to sining, Tremaine mentioned that he hed talked to a contraoting company in Vancouver and thet the ore breakage and haulage could be contracted for at a price of around 75 sents par ton.

Contracting the mining and haulage would result in capital expenditure being required for the mill only. No astimate of the cost of a suitable mill can be fuade until tests on the ore are complete and the flow sheet worked out.

The propoaition as presented by Coming is of deoided interest providing his tonasge eatimates can be substantiated. Incomplete data to hand, togethor with the faet thet the uaderground workings are at present inaccessible, coes not allow for a check of his tonnage estimates and grades. It is suggested therefore that ins. Gowing be aske to supply detailed information as to how he arrived at his tonnage estinate. This information should include assay plens, sections, and any other pertineat data. His estimates could then bo chedked and if deaired the workins could be re-opened for sampling and perhops additional holes drilled to contim the grade of ore that could be mined.

The purchase price of the property was stated by lor. J. J.James to be $\$ 500,000.00$. He mentioned that a deal for the property was almost comploted in 1939 with amicican interests at wich time a $\$ 10,000.00$ down payaent was to be made with the biance boing paid for on a royalty basis. It is poasible therefore that aome aimilar sort of deal could be made at this time.

The property in my opinion offers definite possibilities, providing the Cowiag tomage and srade astimates can be substantiated, a suitable deal made, and a sati afactory recovery made in the mill tests.

Respectfully submitted,


Pe Noller Lide + Tanset
Gren mod, B.C.
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Fwer coferred by ziet -ffice to Mr L.W. Somer


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5. Close to labour supply.

A brief reconnaisance of the area suggests that a possible tavocenable mill site might be on a fou ridge on the north es y f side of Peodnered brede pest behind The old smelter stack. Wretoncerberer taxes in part tron eleadwood rete womb and the
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 be substantit- bend a suitable. Iblecl male, and a sotisfatory oneovery made in the mill Tors.
yours very traly
CC ASB. PSD. K. F. Fil.

