REPORT

on

Dolomi Mine, Prince of Wales Island, Alaska

History

The Dolomi, or "Valparaiso" Mine was discovered around the turn of the century and considerably developed in the North Valparaiso Claim during ensuing years. On this and other claims on the vein system, a great deal of trenching, some tunneling and several more or less shallow shafts are scattered over a length of 8,000 feet with both ends open. There are at least three veins paralleling the long axis of Paul Lake and apparently a series of cross-veins cutting these. Little has been done on the latter series. A stamp mill was erected in 1915 and operated intermittently and to a small extent for some years thereafter. In 1934 the property was optioned by E. B. Ryan and Associates of Vancouver. They reconditioned and enlarged the mill and had it partially equipped when their financial arrangements broke down and, through their failure to remove the equipment within the specified time, ownership became vested in the property and most of the machinery was seized and sold to cover debts. In 1944 the property was optioned by R. Crowe-Swords of Vancouver and turned over to Santiago-Alaska Mines Ltd. The mill was reconditioned and fully equipped for a 100 ton per day cyaniding operation, but the relatively small amount of additional funds needed to provide auxiliary power and working capital could not be raised. A flood of defense and private construction projects, creating difficult labor conditions had worsened the outlook also, and early in 1948 all activity ceased with funds exhausted and some $19,000 in debts unpaid. Through failure to carry out the committment the property reverted to the original owners and, through failure to remove its equipment within the allowable time, Santiago-Alaska had to allow it to become vested in the property. In May, 1952 this equipment was seized by the creditors but sale was forestalled by an arrangement with them made by W.G. Watson and Associates, in the interest of Peter A. Schwerdt, whereby the most pressing claims, amounting to approximately $3,000, were to be paid following my examination and an option on the remaining creditor's rights to the amount of about $16,000 was taken. By the terms of this, $500 plus interest at 8% is payable on August 1st, 1952 and a like sum plus interest payable on the first day of each month for eleven months to be followed at the end of one year by payment of the balance.

Ore Possibilities

During the life of this mine more or less extensive engineering reports have been made by the United States Geological Survey by J. W. Woodford (1908), by J. D. Galloway (1934), by Allan J. Smith (1935), and others. A survey of the power possibilities was made in 1934 by H. K. Dutcher, then a professor at the University of British Columbia. All these reports present an optimistic view of the overall mining chances in this property. The estimates of grade possibilities contained in the earlier reports were no doubt over-influenced by the record of shipment of the high grade made in those days. Ore grading several hundred dollars per ton in gold and silver (old prices) having a gross value of about $100,000 was mined during those years. The report made by John D. Galloway is by far the most conservative of all, and therefore furnishes the

safest guide to consideration of the situation. Moreover, his record as a sampler and estimator of grade and tonnage is excellent and I have no hesitation in accepting his figures as being on the safe side. In fact my recommendation of this property is based on his findings. It is evident from his report that in making his overall estimate of grade he allowed no credit for the probable occurrence of shoots of extremely high grade ore, such as that mentioned above. This is in accordance with strict conventional practise and, in view of the fact that a heavy financial risk was then involved, conservatism was entirely proper. However, it should be pointed out here that he and others have noted the occurrence of extremely rich ore in the apex of the shore vein and at other points, and it therefore seems highly probable that such ultra rich small shoots will be found here and there throughout the vein system at points which may become to some degree predictable as knowledge of the local geology is gained. His overall estimates of grade will probably therefore prove to be 25% or more on the low side. Again, in making his estimate of tonnage, he has confined himself to a very shallow surface layer. The results below this layer in the presently flooded Valparaiso workings indicate continuity to at least considerably greater depth, and it is probable that more ore shoots will be found in the upper layer itself during the routine course of connecting up the Valparaiso upper workings with the Paul Over tunnel section and the Paul and Amazon shaft sections. Considering, therefore, the proven and indicated tonnages he allows, and taking into account the ore extensions in the Valparaiso workings below the drainage level as shown from the old mine records together with the probabilities in the routine connection work mentioned, it seems reasonable to figure a minimum quick tonnage probability of say 30,000 tons of a grade approaching 0.43 ozs. per ton. Such would provide a year's feed for a 100 ton mill and with gold figured at say $50 per oz. the profit should net at least $200,000. Such ore blocks represent the richer portions of ore shoots of much larger tonnage having an overall grade by Galloway's first estimate of $6 to $7 per ton. However, following the opening up of the vein on the Boston claim, he found the results so encouraging that he raised his estimate to $7 to $8 per ton. Again, these figures do not take into account shoots of ultra high grade ore and, as indicated above, they are probably 25% or more too low. The expectation of an overall grade of $8 to $9 per ton therefore seems reasonable. It is not possible to make any definite estimate of tonnage possibilities at this grade beyond that made by Galloway covering only the upper layer. One engineer predicts two million tons to moderate depth but it cannot be classed as an estimate. In this long, persistent and numerous vein system this figure could easily be sustained or even greatly exceeded, but until more exploration work has been done, one can go no further than to concede the probability of occurrence of an important tonnage of the grade mentioned. Intervals between these shoots contain values of lower grade and at some points it has been noted that low grade material lying outside and parallel to the shoots referred to, or, in other words, low grade parts of the same ore shoots, extend over great widths and from the limited information thus far available it would appear that there is a considerable possibility of developing very large reserves of a grade of say $5 per ton (present metal prices). Should the price of gold be raised to $50 per oz., such reserves would supply feed for a large and immensely profitable operation. The recommendations contained in the

Galloway report were made in the light of the then newly established price of $35 per oz. for gold. Costs of operation have risen very greatly since that time however, and it was apparent from the outset that operation of the mine under present conditions would not be economic. Hope of successful operation therefore rests on the expectation of a raise in the price of gold to at least $50 per oz. It seems probable that such an adjustment will take place in the near future and possibly, shortly following the inauguration of the next president of the United States, for reasons which need not be discussed here. Occurrence of a large scale war with the Communist countries would, however, delay fruition of such an enterprise very badly, at best, and only very special financial terms and general conditions would justify a capital risk at the moment.

Financial Conditions

Following the default by the Santiago-Alaska Company, W.G. Watson & Associates arranged to acquire an option to purchase the property for $75,000 payable out of production through a 6% net royalty on all smelter or bullion returns. By this arrangement no time limit is imposed beyond payment after the first year of a minimum amount of $200 per month to the owners. Watson agreed to assign this option to Peter A. Schwerdt in consideration of $250 in cash and a very small interest in the project. The mine and mill equipment had been seized by the Sheriff to cover payment of debts incurred by the Santiago-Alaska Company but sale was forestalled by Watson under the arrangement set forth in the first paragraph. It appeared from the inventory and other data that the equipment would have a salvage value of from $75,000 to $125,000 and it also appeared that the extensive stand of timber on the claims might offer considerable possibilities for profit. Thus the deal appeared to hold great potentialities for profit and adequate protection against adverse eventualities through the salvage value. It was decided therefore that I should make a brief trip to the property to size up the situation, particularly as to the value of the mine and mill equipment.

Examination of Mine & Equipment

I proceeded to Ketchikan on June 3rd to investigate the situation on the ground. A stretch of unusually bad flying weather prevented flight from there to Paul Lake which is difficult of access by plane except in calm weather or during north or south winds, so I was unable to reach the property until June 9 when a brief lull in the storm took place. As originally planned, I was to have been accompanied by another man but he was at the last moment compelled to change his plans. Nor could I secure the services of an assistant at Ketchikan, so the scope of my investigation had to be much less complete than I had intended. However, I feel that the Galloway report may be relied on as to ore possibilities and, as a matter of fact, to have attempted anything of the nature of a comprehensive check on it would have required an extensive and rather costly program of preparation as all timbering above the water level is now unsafe, overburden has sloughed into the open cuts, and a rank undergrowth now obscures them.

The condition of the mine and mill equipment was the factor most in doubt. The plant had been shut down completely since 1948 and for the last

year or more had not even had the care of a watchman. It had been ascertained by the Ketchikan creditors that some looting of small tools, food supplies and light equipment had taken place but the extent of the loss and deterioration was not known. I am satisfied that my inspection, though very brief, supplies a sufficiently good basis for present consideration. A complete inventory was made by the superintendent just prior to the shut-down and it only remained to size up the loss from looting and deterioration.

The camp buildings other than the mill building (i.e.) warehouse, bunkhouses, meathouse, transformer house, blacksmith shop and power house are all more or less weathered (unpainted) structures. They have been unused for the most part for four years and totally neglected for two years, and were found to be dirty and somewhat dilapidated in appearance, but some minor repairs to roofs and floors would check the present rate of deterioration and preserve them in sufficiently good condition to be used for the initial period of operation if such is not too long deferred.

The mill building is a well built and substantial structure with sufficient excess space to permit of some modification of equipment layout should such prove desirable. The foundations, machine beds, and in fact, all interior woodwork, are in excellent condition with the exception of the upper bay containing the fine ore bin and grinding equipment. The woodwork of this part and particularly the timbering of the ore bin shows weathering and will require reinforcing and some replacement. The roof appears to be in bad shape and the rest of the framework shows deterioration, and some reinforcing and replacement will be required. The same is true of the building housing the coarse ore bin and crushing equipment. Repair work on both of these sufficient to permit operation during the initial period can be made at comparatively small cost using timber available on the property.

The surface tramway paralleling the mill from the dock warehouse to the coarse crushing plant presents a dilapidated appearance due to rotting out of some of the ties and washing out of some of the ballast by the heavy rains but a few mine carloads of waste and some new ties would restore this at small cost.

I was unable to walk the penstock from power plant to intake due to the rank growth of devil'sclub and salmonberry which has sprung up. The pipe is a wire-wound woodstave pipe supported partly on trestle-work. Some of this trestle-work and, I presume, part of the pipe as well have collapsed as far as I could judge by viewing it from the airplane and I think it probable that the whole 1,900' will prove unusable.

The narrow gauge railway from Dolomi Harbour to the south end of Paul Lake is carried entirely on trestlework. I was unable to inspect it and could not view it from the air very satisfactorily either, but I learned from others that about a third of the trestle work is down and the remainder in very bad condition. In my opinion it is no loss. Upkeep of the timbering would always be expensive and a truck road would not only be much less expensive to build and maintain but would also be much more efficient. In fact it is difficult to understand why the rail line was ever built. The

original wagon road from the head of Dolomi Harbour to the east end of Paul Lake is now completely obscured by salmon-berry and second growth, and the one bridge across Paul Creek just south of the Beaver Meadow, though still standing, would need to be rebuilt. It follows high, dry ground and is a little over a mile in length. If a salvage operation became necessary this could be put in shape at very small cost. It could be extended around the east end of the lake and along the east shore to the camp with little or no rock work, if desired. The additional distance would be somewhat more than a mile.

A good deal of the small equipment, such as tools and utensils, small hardware, blankets, canned foods, and so on, have been stolen. Most of the assaying equipment is missing also but, judging from what remains, it was a pretty poor outfit, and would have had to be replaced anyway. I would guess that perhaps four to five thousand dollars worth of stuff has been removed. The machinery and piping and wiring is all intact and in good shape. The cyanide tanks in the mill have, of course, never been used, and appear to be as good as new. The feeders and agitators are brand new as are the reagent control tanks and accessories, ball mill and auxiliary equipment. In short, Erickson's inventory appears correct as to quantity and also as to condition, after making allowance for some very slight deterioration which has taken place since, except, of course, for the items looted. All the various machines are individually driven by electric motors most of which were installed in 1947 brand new. All moving parts appear to be free insofar as I could test them. In that damp climate the motors are bound to have collected some moisture and will all have to be dried out before using, but that is a small matter. The switchboards were all stripped at the time of shut-down and the parts stored in the cookhouse. Everything in that line seems accounted for. It is remarkable that the bronze valves of the piping system were not stolen because these are really valuable and in great demand now, but there does not seem to be a single one missing.

The air compressor is an old type single stage machine which probably has a lick of good licks left in it yet and would do for the initial stage of development. These machines are less efficient than the newer types and for permanent operation, since a standby compressor is a practical necessity, a new machine should be acquired and the old one used as a spare.

Power Situation

Mr. Erickson reported to Mr. Crowe-Swords on December 4, 1947 that the plant was ready for operation but failed to state what tonnage could be handled. It seems improbable that any efficient operation could have been maintained on the power then available. Dutcher estimated 400 H.P. Available from Tunnel Creek using the total head of 530'. He thought this could be done by hooking the penstock direct to the outlet of the subterranean passage so as to preserve the full head. However, this was not done and the head utilized cannot be much over 100 feet., thus probably not over 60 H.P. was available, or little more than sufficient to operate the compressor at full capacity. A development program could

have been carried on, or some mining, but hardly anything more.

Dutcher's estimate of the power potential is based on the "precipitation per acre-foot" formula and assumes that all the runoff of the basin goes into the subterranean passage in the limestone and is delivered without loss to the outlet above mentioned. Construction of weirs above and below would enable a check to be made on this at small cost. Provided such a check sustained his assumption, however, it would remain to be seen whether the condition would hold if the subterranean passage were placed under pressure by connecting it to the penstock as suggested. It does seem probable that most of the water would be retained under considerably increased pressure at worst under such conditions. There is, however, an alternative possibility which might prove feasible. If the lowest point on the southerly rim of the basin is not too far above the lake in elevation the water could be taken at the outlet and piped over the rim down the mountainside to Paul Lake thus insuring full volume as well as full pressure. A short tunnel or short, deep trench might accomplish the passage of the rim or the water might be siphoned or pumped over it. In the latter case the expenditure of power in pumping over the rim would be fifty or sixty percent compensated for by the increase in head gained. The possibility of increasing storage of water by sealing off the underground passage is also suggested, but consideration of this would have to await accumulation of a great deal of data. This should not be neglected, for the flow in Tunnel Creek dwindles to a mere trickle during mid-summer, and unless this situation could be alleviated by storage it would be necessary to generate power by means of a diesel plant during this period, or shut down completely.

Another lake on the south side of Johnson Inlet, Aiken Cove, is enclosed in a basin 3.5 square miles in area. Dutcher estimated a potential of 700 - 1000 H.P. from that source during all but the mid-summer drought. A transmission line 4½ miles long would be required to carry the current from the generator to the Dolomi plant. Some ten miles east of Paul Lake there are a number of sizeable mountain lakes which would no doubt produce in the aggregate several thousand additional horsepower if needed. The question of power rights at all these sites should be investigated. Rights on the Paul Lake basin were acquired by Ryan et al in 1934 and it is presumed that Santiago Alaska revived them, but the present status should be investigated and action taken if indicated.

Timber

The whole area is timbered with cedar, spruce, hemlock and others. An abundant supply of mine timber is thus assured. I do not profess to be able to give a reliable estimate of the possibilities for a commercial logging operation there and of course I could only view it from the air. We circled the area

several times as low as safety would permit and I noted some patches which looked inferior in quality. However, some of the more accessible portions at least should produce good logs at a profit under fair conditions and the new pulp mill at Ketchikan will provide a new market for pulp timber and stimulate lumber buying locally.

Conclusions

On the expectation of a raise in the price of gold to $50 per ounce or better, the proposition is most attractive. The mining possibilities under such conditions must by the most conservative estimate be regarded as important and might be very great indeed. Costs of mining and milling would be very low compared to the average project because of the unusually fortunate location and favourable metallurgy. Labor conditions have been bad in Alaska from the point of view of the operator since the outbreak of World War II due to defense preparation but these works are on the way to completion now and a swing to better conditions should soon be under way. The territory seems headed for a considerable industrialization in the very near future and this should produce a tendency to bring costs more into line with those in the States. However, should these hoped for eventualities fail to materialize within the next couple of years, the equipment and perhaps some timber could be sold to recoup the entire investment and the claims could be held indefinitely for the amount of the taxes which at the current rate totals about $100 annually.

Recommendations

A good trail following the old road from the south end of Paul Lake to Dolomi Harbor should be cut and the bridge across Paul Creek repaired sufficiently to allow safe use by pedestrians. A log float should then be built at the harbor to facilitate air transportation to and from that point. Air transportation to and from Paul Lake is impossible for many days on end during stormy periods but the harbor could be used during such periods if necessary. Later a trail from the south end of Paul Lake to the camp should be cut out for winter use as the lake does not generally form a sufficient thickness of ice for safe travel. Some leaks in the roofing of the smaller building should be repaired by patching with roofing paper. The horizontal member of one of the roof trusses of the bottom bay of the mill building was cut out to permit erection of one of the cyanide tanks thus weakening the support for the roof badly, and some sagging has taken place. A repair job should be done there before winter snow comes but it will have to be a "makeshift", temporary one until it is possible to bring in a stick of squared timber from Ketchikan. One of the wooden tanks of the cyanide system was placed outside the mill without covering. If the mill were in operation this would not be too bad but until it is the tank should be dismantled and the parts stored under cover. All equipment should be gone over carefully and some painting and greasing done where needed. This job can be done by the watchman with the help of one man for a short

period.

At least five claims should be staked to round out the property and some time before operation is commenced the stakings should be extended southward on the vein system to Clarence Straits, and some staking along the west shore of Paul Lake should be done also. This can only be done by American citizens. The old trenches should be cleaned out and sampled for the record, and more prospecting and surface work should be done. There is very little information on the east-west vein system and results there might well effect very greatly any plans for active development of the property. Again there is always the chance of uncovering a bonanza ore shoot during the course of such work. In fact the grade outlook might conceivably be altered in a most important way by further surface exploration. Certainly the possibilities appear to have been hardly more than scratched. Around the intersection of the two vein systems would seem a likely place to search. At the first real hint of a break in the gold situation a gas-driven pump should be installed and the Valparaiso workings pumped out and sampled. Successively the other shaft workings should be similarly tested.

H. O'R. Dyer

Vancouver, B.C.
June 25, 1952

HO'RD:jd

REPORT ON

THE BOLOMI MINE
Prince of Wales Island, Alaska

INTRODUCTORY NOTE

This report is written at the request of Mr. Peter A. Schwerdt, who took over control of the property in 1952. At that time the outlook for gold mining was thought to be especially promising and I was asked to make an examination of the property and to report on its possibilities in the light of an expected increase in the price of gold. The hoped-for rise in price has not materialized, although, in the opinion of many highly regarded economists, it is bound to come, and the purpose of this report is to appraise the actual and potential value of the property as a more or less long-term hold.

PROPERTY HOLDINGS

The Bolomi Mine holdings consist of seventeen patented mining claims, which are tabulated below:

Jessie
North Valparaiso
Lakeside
Cape Horn
Paul
Paul Over
Amazon
Eono
Peninsula
Sandwich
Peter
Fall River
Beauty No. 3.
Salmon
Salmon No. 2
Boston
Stockton

REPORT

on

THE DOLOMI MINE

PRINCE OF WALES ISLAND, ALASKA

by

H. O'R Dyer,

Professional Engineer

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Vancouver, B.C.
November 14th, 1956

HISTORY

The Dolomi, or "Valparaiso" Mine is located on Paul Lake about one mile from the head of Dolomi Harbour, a sheltered, deep-water harbour on the east coast of Prince of Wales Island, about thirty miles across Clarence Strait from Ketchikan, Alaska.

It was discovered around the turn of the century and considerably developed in the North Valparaiso Claim during ensuing years. On this and other claims on the vein system, a great deal of trenching, some tunneling and several more or less shallow shafts are scattered over a length of 8,000 feet with both ends open. There are at least three veins paralleling the long axis of Paul Lake and apparently a series of cross-veins cutting these. Little has been done on the latter series. A stamp mill was erected in 1915 and operated intermittently and to a small extent for some years thereafter. During these earlier years, as it appears from the somewhat vague records, high-grade ore was shipped which had a gross value, at the then prevailing prices, for metals, of about $100,000.00.

In 1934 the property was optioned by E. B. Ryan and Associates of Vancouver. They reconditioned and enlarged the mill and had it partially equipped when their financial arrangements broke down and, through their failure to remove the equipment within the specified time, ownership became vested in the property.

History - Cont'd)

In 1944 the property was optioned by R. Crowe-Swords of Vancouver and turned over to the Santiago-Alaska Mines Ltd. The mill was reconditioned and, reportedly, fully equipped for a 100-ton per day cyaniding operation, but the relatively small amount of additional funds needed to provide auxiliary power and working capital could not be raised. A flood of defence and private construction projects, creating difficult labour conditions, had worsened the outlook, also; and early in 1940 all activity ceased, with funds exhausted and some $19,000.00 in debts unpaid. Through failure to carry out the commitment, the property reverted to the original owners and, through failure to remove its equipment within the allowable time, Santiago-Alaska had to allow it to become vested in the property. In May, 1952, this equipment was seized by the creditors, but sale was forestalled by an arrangement with them made by W. G. Watson and Associates in the interest of Peter A. Schwerdt, whereby the most pressing claims, amounting to approximately $3,000.00 were to be paid, following my examination, and an option on the remaining creditors' rights to the amount of about $16,000.00 was taken. These claims were subsequently paid up in full and a caretaker has been maintained at the property to ensure the security and condition of buildings and equipment.

FINANCIAL CONDITIONS

Following the default by the Santiago-Alaska Company, Mr. L. G. Watson arranged to acquire an option to purchase the property for $75,000.00 payable out of production through a 6% net royalty on all smelter or bullion returns. By this arrangement no time limit is imposed, beyond payment, after the first year, of a minimum amount of $200.00 per month to the owners. Watson agreed to assign this option to Peter A. Schwerdt in consideration of $250.00 in cash and a very small interest in the project. The mine and mill equipment had been seized by the authorities to cover payment of debts incurred by the Santiago-Alaska Company, but sale was forestalled by Watson under the arrangement set forth above. It appeared from the inventory and other data that the equipment would have a salvage value of from $75,000.00 to $125,000.00 and it also appeared that the extensive stand of timber on the claims might offer considerable possibilities for profit. Thus the deal appeared to hold great potentialities for profit and adequate protection against adverse eventualities through the salvage value. It was decided, therefore, that I should make a brief trip to the property to size up the situation, particularly as to the value of the mine and mill equipment.

ORE POSSIBILITIES

I proceeded to the mine, via Ketchikan, on June 2, 1952 and found, as suspected, that it would be futile to attempt an

examination of the mine workings without first conducting an extensive and rather costly program of preparation which we were not prepared to do. All timbering above the water level was in very bad condition, much overburden had sloughed into the open-cut workings and a rank undergrowth had sprung up in and around them. It was thus necessary to rely entirely on past reports for this aspect of the problem.

Since the discovery of this mine, comprehensive geological and engineering reports have been made by the United States Geological Survey, by J. W. Woodford (1908), by J. E. Galloway (1934), by Allan J. Smith (1935), and others. A survey of hydro-electric power potentialities of the area was made in 1934 by H. E. Butcher, then a professor at the University of British Columbia. The reports present an optimistic view of possibilities, and in the light of metals prices and cost conditions prevailing at the times indicated, they were no doubt justified. I know nothing of the qualifications of Mr. Woodford or Mr. Smith, but I knew John E. Galloway very well and feel no hesitation in accepting his figures. For a good many years prior to 1934 he held the position of Provincial Mineralogist of British Columbia, the status being somewhat the equivalent of that of the present Deputy Minister of Mines. He left the government service to return to consulting practice about 1933 and a couple of years or so later, as I recall, he became manager of the Base Metals Company's mine at Field, B.C., which position he held until shortly before his death. He was a very capable

(Ore Possibilities - cont'd)

and extremely conscientious engineer and I have complete confidence in his report. My evaluation of the ore possibilities of this property are based very largely on his findings.

It is evident from his report that in making his overall estimate of grade he allowed no credit for the probable occurrence of shoots of extremely high grade ore. This is in accordance with strict conventional practice, and in view of the fact that a heavy financial risk was then involved, conservatism was entirely proper. However, it should be pointed out here that he and others have noted the occurrence of extremely rich ore in the apex of the shore vein and at other points, and it therefore seems highly probable that such ultra rich, small shoots will be found here and there throughout the vein system at points which may become to some degree predictable as knowledge of the local geology is gained. His overall estimates of grade will probably, therefore, prove to be 25% or more on the low side. Again, in making his estimate of tonnage, he has confined himself to a very shallow surface layer. The results below this layer in the presently flooded Valparaiso workings, indicate continuity to at least considerably greater depth, and it is highly probable that more ore shoots will be found in the upper layer itself during the routine course of connecting up the Valparaiso upper workings with the Paul Over tunnel section and the Paul and Amazon shaft sections.

Considering, therefore, the proven and indicated tonnages he allows, and taking into account the ore extensions in the Valparaiso workings below the drainage level, as shown from the old mine records, together with the probabilities in the routine

(Ore possibilities - Cont'd)

connection work mentioned, it seems reasonable to figure a minimum quick tonnage probability of, say, 30,000 tons of a grade approaching $15.00 per ton. Such ore blocks represent the richer portions of ore shoots of much larger tonnage, having an over-all grade, by Galloway's first estimate, of $6.00 to $7.00 per ton. However, following the opening up of the vein on the Boston claim, he found the results so encouraging that he raised his estimate to $7.00 to $8.00 per ton. Again, these figures do not take into account shoots of ultra high grade ore and, as indicated above, they are probably 25% or more too low. The expectation of an over-all grade of $8.00 to $9.00 per ton, therefore, seems reasonable. It is not possible to make any definite estimate of tonnage possibilities at this grade beyond that made by Galloway covering only the upper layer. One engineer predicts two million tons to moderate depth but it cannot be classed as an estimate. In this long, persistent and numerous vein system, this figure could easily be sustained or even greatly exceeded, but until more exploration work has been done, one can go no farther than to concede the probability of occurrence of an important tonnage of the grade mentioned. Intervals between these shoots contain values of lower grade and at some points it has been noted that low grade material lying outside and parallel to the shoots referred to, or in other words, low grade parts of the same ore shoots, extend over considerable widths, and from the limited information thus far available it would appear that there is a real possibility of developing very large reserves of a grade of, say $5.00 per ton (present metal prices).

The recommendations contained in the Calloway report were made in the light of the then, newly-established price of $35.00 per ounce for gold. Costs of operation have risen very greatly since that time, however, and it was apparent from the outset that operation of the mine under present conditions would not be economic. Hope of successful operation, therefore, rests on the expectation of a rise in the price of gold to at least $50.00 per ounce.

EXAMINATION OF MINE AND MILL EQUIPMENT

The condition of the mine buildings and mine and mill equipment was the factor most in doubt. The plant had been shut down since 1948 and for two years or more had been totally uncared for. It had been ascertained by the Ketchikan creditors that some looting of small tools, food supplies, and light equipment had taken place but the extent of the loss and deterioration was notknown. A complete inventory had been made by the superintendent prior to the shut-down and from a check against this I estimated that the loss from looting and deterioration due to lack of ordinary care, amounted to approximately $5,000.00. Time available would not permit the making of an accurate count of such small supplies as pipe fittings, drill bits etc., but I think the round sum named should cover all losses.

The camp buildings, consisting of warehouse, cookhouse, and bunkhouse, meat-storage house, transformer house, blacksmith shop, power house and assay office were in fair shape, though needing some minor repairs which have since been accomplished by the caretaker.

The mill building is a well built and substantial structure with sufficient excess space to permit of some modification of equipment layout should such prove desirable. The foundations, machine beds, and all interior woodwork are in excellent condition with the exception of that in the upper section containing the fine ore bin. The roof over this section had been leaking badly for a long time, it would appear, and the timbering of the bin is badly rotted. Replacement of this, together with some reinforcing of the framing (using timber on the ground) would suffice to render it usable for a few years at small cost. The condition of this part of the roof could not be closely checked but it was thought that minor repairs would suffice here also. In the lower section of the mill, the horizontal member of one of the roof trusses was removed to facilitate erection of cyaniding equipment and was not replaced prior to the shutdown. The roof over it had sagged slightly in consequence and arrangements were made and carried out to check the sagging by replacing the beam with a laminated one consisting of planks bolted together.

The building housing the coarse ore bin and crushing equipment was in fair shape and, with some minor repairs to roof and bin, should function satisfactorily for a few years.

The hoist house is in fair condition and the compressor house is in excellent condition.

The surface tramway paralleling the mill building from the dock warehouse to the coarse crushing plant is in a

dilapidated condition due to rotting out of ties and washing out of some of the ballast, but the rails are good and repairs can be made at small cost, using materials available on the property.

The narrow gauge railway from Dolomi Harbour to the south end of Paul Lake is carried mainly on trestle-work, a considerable part of which had collapsed. It was all in bad condition. In my opinion, this is no loss and it is difficult to understand why it was built, as a truck road built up on waste rock from mine development would not only be less expensive to construct and maintain, but would also be much more efficient. The rails should have a salvage value of at least $5,000.00.

The original wagon road to the south end of the lake is completely obscured by undergrowth and second growth. This road should be rebuilt and extended along the north shore of Paul Lake to the mine camp. This last portion, about a mile long, would present no problem at all, the ground being ideal for road building. It would eliminate rehandling everything at the south end of the lake and accomplish the useful disposal of some of the mine waste-rock. The total length of road from the harbor would be about 2½ miles.

The docks at the camp and at the south end of the lake were found to be in good condition.

Regarding the equipment, I shall make only certain general comments here. For details, the inventory should be referred to.

The assay office is not completely equipped and was apparently not used, for the furnace had not been connected up.

(Examination of Mine & Mill - cont'd)

The crusher, pulverizer and motors, cupel machine and furnace and accessories are in good to excellent condition, and the addition of a pulp balance, gold balance, fresh chemicals and some glassware would complete the outfit, except for some inexpensive items.

The power plant contains a 72" Pelton wheel connected to a motor generator set capable of developing 400 Kw. and a 24" Pelton wheel driving a 6 H.P. standby unit. This equipment is complete with all necessary accessory devices and wiring and everything is in excellent condition.

The blacksmith shop equipment is not sufficiently equipped for full-scale operation where a considerable amount of routine repair work would be required, but it contains a new electrically driven Ingersoll-Rand bit grinder, a serviceable hand drilling machine, forge, anvil and blower, and with the addition of some hand tools, the outfit would do for a preliminary development program.

The transformer equipment is complete and in very good condition.

The cook house was pretty completely looted, and dishes and utensils missing, but it contains an excellent camp range.

The bunkhouse facilities are good and adequate to house twenty men. Blankets were stolen and new mattresses will be required.

The crushing equipment is excellent and well balanced throughout. The crusher is brand new and the plant should

produce 100 tons per eight hours with a minimum of trouble for a long time.

The electric hoist, motor and accessory devices are in good condition and the plant is adequate to look after hoisting requirements to depths thus far opened up insofar as development work is concerned.

The compressor plant is a good complete unit in every way and will produce about 275 cu. ft. per minute. The compressor is an old type, single-stage, machine. These machines are less efficient than more modern machines but they are very rugged and dependable and, as this one has been kept in excellent condition, it should give good service for a long time.

The equipment of the milling plant proper is, generally speaking, excellent. All machines have individual drive and most of the motors are brand new. The solution tanks, agitators and thickener tanks are new, as are many of the accessory devices and the precipitation unit is partly new. The piping system is complete and in excellent condition. Most of the bronze valves appear to be new. The classifier is in doubtful condition but will probably function for a while. The accessories to this unit are excellent. This mill was not completely readied for production when the project was abandoned. There are minor deficiencies in some units, viz, the headmotions for the deister tables are missing; and in respect to the thickeners, there is no provision for overload alarm. It is doubtful if the grinding unit will put out 100 tons per day unless a rather coarse product will suffice. The

(Examination of Mine & Mill - cont'd)

capacity of the thickener and precipitation units is probably not much above 75 tons per day. I would estimate that this plant is 95% complete for a production of 75 tons per day or about 75% complete for a capacity of 100 tons per day. In making these estimates, I have written off items such as the classifier and other doubtful items, although these would doubtless function for a while.

HYDRO-ELECTRIC POWER POSSIBILITIES

There is a small drainage basin on top of the mountain which rises from the east shore of Paul Lake. Two very small lakes connected by a short creek occupy the bottom of it. The overflow from these lakes drains into a cavern in the limestone which extends down to about a couple of hundred feet above the lake where it emerges at the surface and forms Tunnel Creek. H. K. Butcher estimated the total potential here, utilizing the full head of 530' at 400 H.P. during nine months or more of each year. Storage might be increased by sealing off the upper entrance to the cavern but it is doubtful if the capacity indicated could be maintained through the dry season even so. Another lake on the south side of Johnson Inlet, is enclosed in a basin 3.5 square miles in area. Butcher estimated a potential here of 700 to 1000 HP during all but the summer drought. A transmission line about 4½ miles long would be required to carry the current to the camp. Some 10 miles east of Paul Lake there are a number of sizeable mountain lakes which in the aggregate might produce several thousand additional horsepower but I have no information on the flow from these.

It seems apparent that between the two sources surveyed there should be sufficient power for a 100-ton operation throughout most years. During the odd year a period of three weeks during the summer, entirely without rainfall can occur but it might be possible to increase storage to carry through such a time. However, a standby diesel-powered plant would be a practical necessity anyway so that the power situation insofar as the lower-rated production capacities are concerned, can be considered as very good indeed. However, the question of power rights on these various sites should be investigated in view of the recently renewed interest being shown in the mineral possibilities of the area.

As mentioned in a preceding section, the power plant itself is in excellent shape and adequate in capacity for a 100-ton operation, but the forebay and flume are rotten and probably completely useless. The penstock has deteriorated badly also, and will have to be more or less completely replaced.

Timber

The valleys containing Paul Lake and Amazon Creek and the lower slopes above Johnson Inlet are well timbered with cedar, spruce, and hemlock. A cruiser sent by an associate of Mr. Schwerdt estimated that the patented claims of the Beloni property contain five million feet of timber which could be marketed at Ketchikan, leaving sufficient second-grade stuff to supply the needs for mine timbering for a long time. Outside the patented claims the areas indicated contain something like an additional twenty million feet of marketable timber. This timber would have to be acquired from the Alaska Government at stumpage rates, but the Beloni Mine's timber rights pretty well constitute the key to the situation and it is

very unlikely that any other party could log this stand successfully without purchasing its rights. The stand outside the claims will probably, therefore, remain available to the owner of the mine indefinitely. By installing a small framing shop, the needs for camp and mine timbering could be supplied for a very long time from the stand on the patented claims and this block can be listed as a definite asset.

CONCLUSIONS

As a standard of values, gold obviously is and has been, since World War I, (except for a five-year period preceding WORLD WAR II) merely an expensive joke! Yet the nations continue to buy it because no other really dependable mechanism has been found to replace it, and they evidently foresee a return to it under conditions which will permit it to function properly as a world standard of values. Monetary advisers to the U. S. Government, while supporting the status quo, have frequently stated publicly that revaluation of gold is being withheld for now so that the action may be applied as a panacea to heal the next depression. The argument is puerile, in my opinion, but it is plain that they recognize the inevitability of a return to a realistic gold standard. We have got along without such a standard, it is true. But let us very briefly review a little economic history.

Following World War I gold, fixed at $20.67 per ounce, soon lost its function through the worldwide currency inflation which occurred. The U.S. had attained a position of economic dominance and its dollar quickly became the only actual world standard of

values. This appeared to work all right up to the year of the "Bank Holiday" when the world lost confidence in it and gold was bid up on European buying and finally stabilized at $35.00 per ounce, at which point it held a fairly realistic relationship to currencies - that beneficial effects immediately accrued can hardly be questioned. The inflationary trend arising from the effects of World War II quickly threw the standard out of gear again, but the U.S. had regained its economic dominance and its dollar has since functioned as the only actual world standard. I do not propose to quote here from the published opinions of the many noted economists who argue, from various premises, that the situation is unhealthy and who urge the return to the gold standard. These opinions are well known and the scope of this report does not permit inclusion of a comprehensive review of them. A factor is rapidly emerging, however, which, insofar as my reading shows, has not been sufficiently considered. It seems plain to me that the rapidly accelerating surge of Russia and Asia to great economic power will soon deprive the U.S. dollar of the completely dominating position it has held since the war. When that happens, arbitrary revision of the price of gold will have to be arranged by International agreement, or it will be bid up as it was during the period immediately prior to 1934, and in either event, the price will probably reach $70.00 per ounce or higher.

The price rise, I believe inevitable, will transform this property into a real prize. The multiple vein system parallel to the Valley of Paul Lake has been sufficiently explored to indicate that large tonnages of ore will be a reasonable expectation and there is a second vein system parallel to the valley of Amazon Creek which intersects the first. Exploration of the second system has been confined mainly to scattered trenching, but on the records available, it appears that all its characteristics are the same as those of the other and it thus holds definite promise of additional tonnage of ore. All factors bearing on the cost of operation of this property are exceptionally fortunate. The metallurgy is relatively simple; the country rock is soft so that underground development and diamond drilling can be performed at minimum cost; the winter climate is very mild and fuel requirements are thus relatively light, an important cost consideration when operating mills in the North; timber on the property is ample for all purposes, potentialities for cheap power are good; and the location on a good salt water harbour assures minimum transportation costs.

It should be noted here that several radioactive discoveries have been made within ten to twenty miles of the Beloeil Mine and the whole island is being intensively prospected. The best known of these discoveries is located on the South Arm of Moira Sound, about ten miles south of Beloeil. It has been under exploration by the Climax Molybdenum Company for the past year and a half. It would seem advisable,

therefore, that a radiation survey of the Bolosi claims should be made as soon as feasible.

In my opinion this mining property holds great promise for the future and I believe its equipment should be preserved intact thereon until the change in conditions foreseen, as mentioned above, comes about.

APPRAISAL OF ASSETS

My appraisal of the value of the tangible assets on the property is based on the assumption that the mine will be put into operation eventually. In calculating the value of the milling and crushing plants' buildings and equipment, (which together form a nearly complete unit for a milling capacity of 75 tons daily) the replacement cost is used. It has been found that the cost of milling plants within this capacity range and of this type, constructed and equipped, runs very close to $3,000 per ton of capacity at the present time. In Alaska, costs would undoubtedly exceed that figure, but lacking sufficient information to enable me to estimate the difference, I must let that go. The full value of the unit if it were complete for the rating indicated would be approximately $225,000.00. However, after discounting the figure five per cent because of the probable lack of durability of certain items of equipment and some minor deficiencies, I arrive at the figure of $212,750.00, which I believe to be

fair, and probably more accurate than a figure arrived at through inventory, for allowance for transportation, construction and installation would, under the circumstances, involve a good deal of guess work.

Buildings, power plant equipment and accessories, blacksmithing, and mining equipment and supplies, and assay office equipment, excluding items not in condition to yield good service, are valued at their replacement cost installed.

Timber reserves on the patented claims are appraised at the net value to the mine, after allowing for the cost of cutting and framing, for use as camp and mine timber as against importation. The figure of $20.00 per thousand feet used is, I believe, conservative.

The various underground workings, including shafts, crosscuts, and drifts have all contributed to the development of the ore reserves dealt with in a preceding section and will all fit into a larger development plan when such is undertaken and therefore have a very definite value. Drifting and crosscutting has been valued at $15.00 per foot and shafts at $40.00 per foot.

The detail of the appraisal is as follows:

Milling Unit, including buildings and equipment..	$212,750.00
Power Plant, equipment, including transformers and all electrical devices and supplies outside of milling unit...	50,000.00
Blacksmithing and Mining, equipment and supplies.	30,000.00
Assay Office, equipment.....	700.00
Railway Rails, at salvage value.....	5,000.00
Docks and Buildings, apart from mill and crushing plant building.....	30,000.00
Timber Reserves, 5 million foot at net value for use at mine ($20 per M.).....	100,000.00
Mine Development:	
Drifts and crosscuts, 3907 ft. @ $15.00 per foot...	58,605.00
Shafts, 792' @ $40.00 per ft...	31,680.00
TOTAL.....	$ 518,735.00

Respectfully submitted,

H. O'R. Dyer,
D.Sc., M.E., P. Eng.

HO'RD:per

Vancouver, B. C.

November 14th, 1956

9 -

TACOMA SMELTING COMPANY

W. R. Rust, General Manager.

Bought of B.A.Eardley

Tacoma, Wash., Feb. 24, 190

Lot No.		Description of Ore	Car No or Vessel	Wet Weight	% Moist	Dry Weight	Weight in Tons (Dry)	Gold Ounces	Silver Oûs.	Gold 95% Per Oz.	Silver 95% Per Oz.	Cost of Treatment per Ton	Net Price per Ton	AMOUNT Dollars.
4176	830	Sax 1,2,5 & 6	Alki	54,305	3	52,676	26,338	7.845	12.74	20	47½	6.00	148.77	3,918.30
4177	919	" 3 & 4	"	69,580	3	67,493	33,746	18.095	28.53	20	47½	6.00	350.61	11,831.68
														15,749.98
											Fgt.		317.73	
		Corrected Statement Umpire Assays.									Paid ½		15,078.43	
											Cost of umpire Lot No.4176		6.	15,402.16
														347.82

B.A. Eardley,
Mamger, Princeton Mining and Milling Co. Inc.,
Dolomi, Alaska.

COPY:

JOHN D CALLOWAY
Consulting Mining Engineer -

224 Pacific Bldg.
Vancouver, B. C.
May 25th 1934.

Colonel E. J. Ryan,
445 Granville St.,
Vancouver, B. C.

Dear Sir:

At your request, I submit herewith, as a supplement to my report on the Dolomi Mine, summarized information regarding the Beauty No. 2 claim, recently located by you.

This property lies to the east of the Beauty No. 3 of the Dolomi mine group. On this claim, two or more veins occur, one of which is of importance. This vein is exposed in a short tunnel which shows it to be a strong quarts filled fissure up to 10 feet in width. It occurs in limestone and schist and, although slightly faulted, is a healthy looking showing. Mineralization with sulphides is slight, but disseminated grey copper occurs in places. The following samples give an idea of the values:-

Description	GOLD Ozs.per ton	SILVER Ozs.per ton	Total Value Gold at $35 Silver at 64¢
Across 5' in tunnel	0.04	2.7	$ 3.12
" 4' in tunnel	0.28	15.3	19.59
Grab sample of Dump	0.24	7.8	13.39
Selected High Grade) showing grey copper)	0.66	50.9	55.67

It is to be noted that the grey copper is rich in silver as there was only a small percentage of this mineral in the samples. It is also believed that gold values are associated with the grey copper. Eliminating the selected sample, the other three show $12 ore for a width of 4 to 5 feet.

This showing warrants development. A little more exploration could be done by tunneling, but sinking would be necessary before going far.

Trusting that this is the information you desire, I am,

Yours very truly,

(Sgd.) John D. Galloway.

JDG.M

Alaska Canadian Corporation

AT POINT OF MAILING

Head Office:
100 West Tenth St.
Wilmington, Del.
U.S.A., 19899

Suite 220, 630-8th Ave.,S.W.,
Calgary, Alberta, Canada,
June 26th, 1967.

Mr. Phil Holdsworth,
Dept. of Natural Resources,
Division of Mines and Minerals,
Pouch M,
Juneau, Alaska, 99801.

Dear Sir,- Re: Dolomi Property.

Last year I promised your Department a copy of any material that I might have on the above property.

Enclosed are copies of two reports by Dyer, and one by Galloway.

We obtained the property on the recommendation of Mr. Dyer, who knew Galloway personally, and who had a very great respect for him.

A copy of the material is going forward to Mr. Stewart, formerly with your Department, in Washington.

It would appear that certain persons think the Dolomi is not a good property, but we believe it is.

Kind personal regards,

Peter A. Schwerdt.

P. S. I am leaving for New York to-night so I may well post it from there.

Alaska Canadian Corporation

AT POINT OF MAILING

Head Office:
100 West Tenth St.
Wilmington, Del.
U.S.A., 19899

Dear Phil:

We are coming along with the Nickel deal, but it is somewhat of a tough matter, so much derogatory material has emanated from Juneau about it, and the Peckovish family do not help it at all.

However, I do have high hopes in the matter.

Am on my way to New York to-night in the matter.

I may well phone you from there.

Kind personal regards to you,

Sincerely,

Peter A. Schwerdt.

P. S. Art Erickson seems to think that a promoter is a bad thing and bad word. This is a great problem, as it is with Mr. Johnson, in Chicago, but I am determined to make a go of it.

REPORT ON THE DOLOMI MINING PROPERTY

PRINCE OF WALES ISLAND, ALASKA.

BY

JOHN D. GALLOWAY

Consulting Mining Engineer

CONTENTS:

Accompanying Plans:

INTRODUCTION:

In accordance with instructions from Colonel E.J. Ryan, I have made a thorough examination of the Dolomi mining property. Seven days were spent on the property, giving sufficient time to look it over and make a careful sampling of the accessible exposures and workings. Mr. H.P.Olson was at the camp with four men and he rendered me every possible assistance in the examination and sampling.

I was accompanied on the trip by Mr. H. E. Dutcher, who spent three days in examining the existing power equipment, (now in considerable disrepair) and investigating the possibilities of adequate hydro-electric power, reasonably close to the mine. A separate report will be made by Mr. Dutcher covering the power question, so that only a brief reference to his conclusion will be made in this report.

Several reports, compilations and brief U.S. Geological Survey reports are available regarding the property and area in which it is situated. In this report, therefore, extended reference will not be made to known facts and data already recorded, but emphasis will be laid on those features and probabilities which directly bear on the question of making a productive and profitable mine out of the Dolomi property.

LOCATION, PRESENT CONDITION, HISTORY, Etc.

Full written data is available showing that the location of the property near Dolomi Harbour, Prince of Wales Island, (thirty miles from Ketchikan), is ideal for comparatively easy transportation, thereby contributing to low operating costs.

LOCATION, PRESENT CONDITION, HISTORY, Etc. (Cont'd.)

The property consists of 17 patented claims acquired under option and others recently located. I have not investigated titles, this matter being in the hands of Mr. M. P. Olson, original optionee, and Mr. Arnold, solicitor of Ketchikan. All the main properties are patented claims and under U.S. law carry the extra-lateral rights of following and mining the veins beyond the side boundaries. As far as I can tell titles are all in good order and all showings of importance are on these claims, either optioned or recently located.

The property is an old one and has been intermittently operated since it was located in 1898. In 1915 a 40-ton, 10-stamp mill was erected and is still in good condition.

From existing records it is impossible to say just how much ore has been mined from the property. According to one statement, high grade ore shipments to smelters totalling $75,000 in value, were made from 1900 to 1907. It is apparent that only a few thousand tons of ore were milled and no information is available as to values. From time to time lessors have worked the property, shipping high grade ore or running the mill. All told it is probable that at least $100,000 worth of ore has been produced in the past operations. It is apparent that the property was a "border-line" one at $20. an oz. gold, but presents possibilities of profitable operation at $35 gold.

GEOLOGICAL FEATURES:

The main formation in which the veins on the property occur is a Palaeozoic series of limestones and schists. Limestone predominates, generally crystalline and in places marbleised, but a thin band of sericite schist in many places forms the footwall of the main vein. This limestone-schist formation is intruded by granodiorite, but no outcrops of this formation occur on the Dolomi property. Diabase dykes cut the limestone and the veins. The veins are probably genetically connected with the granitic intrusion, which is of Coast Range Batholitic age, - Jura-Cretaceous.

An impressive series of veins occur on the property. These are of the breccia-fissure type. The first action was fissuring and brecciation of the limestone along zones of weakness, followed by mineralization with quartz, free gold and sulphides in sparing quantities. The veins are persistent in length for several thousand feet. The gangue filling is quartz (roughly 75%) brecciated limestone, calcite and siderite.

In places the veins have been open fissures and the gangue is entirely quartz, and from this phase there are the transition phases to straight brecciated limestone.

Excellent walls, both hanging and foot, occur in some places, but in others there is a gradual change from vein filling to unaltered wall rock. In places a well defined slip or wall occurs in the centre of the vein with replacement extending on either side out for 1 to 3 feet into the country-rock.

The veins in general strike and dip parallel to the bedding of the limestone, although some cross veins occur. They vary in width from 2 to 10 feet and will average from 3 to 4 feet. Very little [illegible] although there has been some post mineral slipping along the strike of the veins. The dips vary considerably but as a rule the veins are flat, averaging perhaps 35 degrees. The general strike of the main veins is nearly East and West, with the dip to the North.

Until further surface work is done and an accurate transit survey made, (Brunton compass would not be sufficiently accurate), it is impossible to say how many distinct and separate veins there are on the property. One series, containing 3 or 4 veins strikes in a general direction of East-West, other veins have a strike of North-West.

It is probable that one vein extends from the Valparaiso shaft, through the Jessie, and Paul claims, and possibly to the Amazon, a distance of 6000 feet.

Regardless of actual proven continuity of one or more of the veins it can be safely stated that permanency as to length is definitely established for these veins. There seems every reason to believe that they will also extend to considerable depth. The Valparaiso shaft is said to be 400 feet deep and that the vein continues to the bottom. This shaft could only be examined down to the 150-foot level, on the dip.

The sulphide minerals present in the veins are tetrahedrite (grey copper), chalcopyrite, pyrite and galena. Fine free gold can be seen in many specimens. It seems probable that considerable free gold was deposited directly when the mineralization took place, but some is the result of surface oxidation, freeing gold from the sulphides. Most of the ore now available on the property, from surface cuts, and the Valparaiso and other shafts, show some oxidation. Assays of samples however, do not indicate that appreciably higher values occur in heavily oxidized material than in unoxidized ore. In other words, it is not apparent that the ore-shoots so far discovered and mined have been caused by secondary enrichment. The assays also indicate that when small amounts of grey copper or chalcopyrite occur in the samples that the gold content is generally high. Until the Valparaiso shaft is unwatered and mining commenced on the lower levels, the question of gold values in the primary sulphide ore cannot be definitely ascertained. It seems probable however, that the primary ore will be as good grade as the surface ore. The percentage of sulphides in the gange is quite low, probably not averaging more than 2 per cent.

The ore occurs in shoots and much of the vein material will probably be too low grade to work. Until extensive mapping and sampling of the vein system is carried out the rake and nature of the ore-shoots cannot be determined. It is probable though that definite ore-shoots will be found to occur in the veins.

WORKINGS and DEVELOPMENT:

The property has been intermittently and spasmodically developed in many places and on several different veins, with open cuts, stripping, short tunnels and several shafts. These are shown on the accompanying plan, compiled from old plans by Colonel Ryan and used in this report mainly to show location of assay samples. It is unnecessary to comment on these various workings, except to say that they are useful to show the extent of the vein systems and the widespread mineralization. In future operation of the property certain of the shafts will be used. All future operation will of necessity be by shaft sinking.

One adverse feature of the property is the flat dip of the veins, ranging from almost horizontal up to 60 degrees. As a rule the dip is from 20 to 40 degrees, with a general average of perhaps 35 degrees. This flat dip will add slightly to mining costs.

Under the heading of "Recommendations" will be outlined the old workings that will be utilized.

SAMPLING and ASSAYING:

Altogether 165 samples were taken on the property, of which all but four were either channel samples across widths from one to eight feet, or grab samples from dumps. The results are shown in the attached tables and on the accompanying plate. In calculating values, gold has been taken at $35 an ounce, and silver at 64 cents per ounce. (U.S. prices). All calculated averages are arithmetical. Owing to a general similarity of widths sampled, very little difference would be obtained by using the foot-ounce averaging method. For instance, the section on Nos. 37 to 47 gives $9.00 value on an arithmetical average, and $9.24 on the foot-ounce method. The error of averaging plus or minus by either method is of a much lower order than the errors incidental to irregular and discretionary spacing of samples, due to conditions of the ore exposures.

A consideration of the results shows that on the whole the veins are too low grade to be mined entirely. Certain shoots of ore in the veins are however, sufficiently high in gold values to be workable at a profit.

Table 1, shows the detail results. Table 2 shows an analysis of the results and indicates the areas of workable ore. In several instances not enough samples could be taken to give adequate information.

As for instance the high value at the Paul shaft ($25.82) is based on one channel sample and two grab samples of the dump. It is safe to say, however, that in all probability a good shoot of ore occurs at this point.

The assay results can be averaged up in different ways. As an example Nos. 28 - 47, show 800 feet-length of ore 3 ft. wide and an average value of $7.05. In this length shorter shoots can be picked out giving higher values as Nos. 37 - 47 show 140 feet in length, 3 feet wide, averaging $9.00 per ton. The property requires much more detail sampling to delineate all workable ore shoots. This, however, is unnecessary at the present time, as it is believed that the sampling shows extensive mineralization, with certain workable ore shoots occurring in the veins. The results demonstrate sufficient indicated ore to warrant development and equipment of the property, and later on a detail sampling, surveying and preparation of assay plans can be carried out.

The assays show several places that indicate commercial ore in quantity; these are:-

1. Amazon shaft
2. Paul shaft
3. Stripping West of Paul shaft
4. Jessie shaft
5. Paul Over tunnel
6. Valparaiso shaft

All these would not of course be developed at once, but they indicate that there are several portions of the property that will ultimately yield commercial ore.

INDICATED TONNAGES OF ORE:

Practically no appreciable tonnage of ore is definitely blocked out at the property and any estimate of indicated tonnage involves much guessing. Summing up the information available in old reports, (some of which is believed to be reliable), and the results of sampling given in this report, I have however made some estimates of probable ore. It should be understood that these estimates involve much guessing, particulary as no inspection could be made of the Amazon and Paul shafts, owing to water. The following tabulation shows the estimated probable ore:-

Place:	Tons	Value per ton	Total Value
Amazon Shaft	5000	$ 6.00	36,000
Paul Shaft	5000	15.00	75,000
Stripping West of Paul Shaft	3500	9.00	31,500
Paul Over tunnel	3000	10.00	30,000
Valparaiso Shaft (above present water level)	5000	8.00	40,000
Totals -	22,500	9.44	212,500

A comparatively small amount of development would prove the correctness or otherwise of these tentative figures. The principal attraction of the property lies however, in the possibility of developing a considerable tonnage of low-grade ore, say $6 to $7 per ton (at $35 gold) and that this could be handled profitably.

Two or three thousand tons of ore are lying on different dumps on the property, but this ore is of slight importance compared to the larger possibilities.

METALLURGICAL TREATMENT:

Attached are the results of laboratory tests on the ore by G.S. Eldridge & Company. These show the ore can be easily treated by flotation and that amalgamation or blanket concentration will recover a further small percentage of values from the flotation tailings.

METALLURGICAL TREATMENT: (Cont'd.)

The present mill building is in good condition and much of the machinery can be used. As a start it would be advisable to use the present mill with some additional equipment. By the addition of a ball mill, classifier and flotation equipment, the mill could be brought up to treat approximately 100 tons a day.

After development operations are started and depending on results attained, the mill building would be repaired and equipment installed as indicated.

POWER:

The question of power has been carefully investigaged by Mr. H.K. Butcher and is the subject of a separate report by him. The present water power plant is inadequate and in disrepair. It is of no value, except to utilize the 3 Pelon water wheels, which appear to be in good condition. If the mine is to be opened up, a power plant should be put in at once, commencing with an installation of 150 H.P., and later increasing to 400 H.P. This would be sufficient to run a 100 ton a day mine and mill, and it is estimated that very low cost power would be obtained.

An old Ingersoll Rand air-compressor is on the property which is in good condition. This will give approximately 500 cubic feet of air a minute and requires 100 H.P. This machine will be quite sufficient to start with and later on, a good second-hand compressor is available at Ketchikan, when mining development warrants. A gasoline-driven hoist on the property will permit commencement of operations at the Valparaiso shaft. Some air receivers, pumps, etc., are in fair condition, but most of the small equipment around the mine is of but slight value. An abundance of old rails from the narrow gauge railway are on hand.

LUMBER and TRANSPORTATION:

There is a good stand of timber on the property, consisting of spruce, hemlock and cedar, all owned by virtue of title to the patented claims. A small portable sawmill will be advisable at the commencement of operations to supply lumber for buildings, etc. Most of the old camp buildings are fallen down or in bad disrepair. With a sawmill supplying cheap lumber, necessary camp buildings will not be costly.

Transportation from Dolomi Harbour to the properties situated around Paul Lake has in the past been by narrow gauge railway, and boat transportation on the lake. The railway is entirely out of commission. A good motor-truck road from Dolomi Harbour to the lake is essential, and branch roads to various workings from the mill situated on the Valparaiso claim. A good boat is required for transportation from Ketchikan to Dolomi Harbour and a small gas boat on Paul Lake.

RECOMMENDATIONS:

Assuming that it is decided to go ahead with opening up the property the question arises as to the sale of operations on which it should be tackled. A limited development programme might be considered consisting of unwatering shafts, hand-work development at various places, and complete surveying and sampling of the entire property. This would in effect consist of spending several thousands of dollars to check up further on the property to determine its potentialities.

It is obvious that operating on a small scale as the leasers have done in the past, will never be profitable to a syndicate or company. A minimum of 100 tons a day would be required for profitable operations. From my examination and sampling results, I definitely recommend that the Dolomi property warrants equipment and development with the objective of arriving at a 100 ton a day operation.

It is on this basis that the following approximate estimate of expenditure is made: -

CAPITAL EXPENDITURE REQUIRED TO OPEN UP DOLONI MINE:

MISCELLANEOUS EQUIPMENT REQUIRED IMMEDIATELY:

Boat	$ 5000	
Float and Warehouse	1500	
Road, Harbour to Paul Lake	3000	
Other Roads	3000	
Sawmill and Logging Equipment	4000	
Small Boat for Paul Lake	500	
Accessory Labour and Expense	1000	
Camp Equipment and Repairs	5000	
Motor Truck	3000	$ 26,000
Power Plant:		
Dutcher Estimate for 150 H.P.	12,000	
To increase to 400 H.P. additional	10,000	22,000
The above estimates include driving motors and all requirements.		
Mine:		
Unwatering shafts, development, etc.	16,000	
Drills, skips, new cars and other equipment	4,000	20,000
MILL: Repairs	1,500	
Ball Mill and Classifier	7,000	
Flotation Plant	10,000	
Assay outfit	1,000	19,500
Allowance for contingencies and working capital		12,500
		$100,000

By eliminating the $10,000 for increasing power plant, and $10,000 for flotation plant and various economies on other expenditure, the mine might be brought into small scale production for $50,000 to $60,000. This would not however, provide sufficient power for mine and mill. To run the mill using amalgamation and treating the tailings on the Deister tables now installed, would not be satisfactory or efficient. A ball mill and classifier is needed in the mill, even if flotation is not used. The stamps can be used for the time being with a 4-mesh screen, ultimately to be replaced with more economical crushing.

No provision is made in the estimate for electric hoists. To begin with the gasoline hoists on the property would be used and the allowance for contingencies will take care of necessary motors required.

While the entire $100,000 is not immediately required, I would recommend that this expenditure be contemplated over a period of six months to properly bring the mine into production.

I have carefully calculated the costs of mining and milling, and estimate that when properly equipped and on a 100 ton a day basis, that total operating costs, (including development charges), of $5.00 per ton should easily be attained. Depreciation and taxes would add 50 cents per ton so that $6 to $7 ore would give a profitable operation.

An experienced mining engineer as manager of the property is a first essential. It is not advisable to lay down a rigid programme of development at present, but the following procedure is indicated:-

1. Purchase of boat and sawmill equipment.
2. Commence operations with small crew, fixing camps, getting out lumber and building road from the harbour to the lake.

3. As soon as practicable commence construction of power plant.
4. Assemble necessary mine equipment using any available at the property.
5. Unwater Valparaiso shaft and closely sample underground workings. Prepare mine for production wherever ore-shoots are found, with necessary drifts, raises, chutes, etc.
6. Similar procedure at the Paul shaft and Paul Over tunnel.
7. Some hand work would be commenced on promising surface showings.
8. It is assumed that an assayer and assay plant would soon be on the property and with the preparation of assay plans of the various workings and outcrops, the mine development plans would be subject to change according to results obtained.
9. Repairs to mill and installation of new equipment.

The Jessie and Amazon shafts require unwatering before conditions will be accurately known, but this work would be postponed until the apparently greater possibilities of the Paul and Valparaiso are ascertained.

SUMMARY and CONCLUSIONS:

The Dolomi mine is an old gold property on Prince of Wales Island, which has been intermittently worked since its discovery in 1898. It is estimated that $200,000 has been spent on the property, and it is credited with a production of $100,000, although official figures are lacking. The property has a series of breccia fissure quartz veins occurring in limestone and schist, carrying small quantities of sulphides and free gold. The veins are unusually persistent, in length, and very free from major faulting and one of them has been developed on the dip to a depth of 400 feet. Three or four of the veins average 3 to 4 feet in width.

In the past, development work has not been systematic, and the location and mining of small shoots of good grade ore has been the objective. The property was worked by a company, and in 1915, a ten-stamp mill was erected. In recent years, the only work has been by lessors.

A careful examination of past reports, supplemented by a thorough examination of the property, including the taking of 165 samples, shows that it has decided possibilities of a successful mining operation. With gold at $20 an ounce, the property apparently yielded only small shoots of profitable ore. With more systematic management and gold at $35 an ounce, (full U.S. price paid in Alaska), it is probable that the veins on development will show substantial tonnages of profitable ore.

The property might be tackled in different ways, depending on money available, and the viewpoint of the operator. My recommendation is that $100,000 should be provided to develop and equip the mine for production at 100 tons a day. The location is ideal, only one mile from tidewater. Supplies and labour are available at reasonable costs, low cost hydro-electric power can be obtained, and also low cost timber and a total operating cost of $5.00 per ton should easily be obtained. The property has been obtained on agreement of purchase on extremely easy terms, and generally, the whole proposition is attractive.

No appreciable tonnage of ore is definitely blocked out, but at several different points, small tonnages of probable ore are indicated. These are tabulated in the report. The principal attraction of the property however, is the possibility of developing a considerable tonnage of ore, grading $6 to $7 a ton. Shoots of high-grade ore occurring in the veins may also be expected.

I have therefore no hesitation in recommending the Dolomi mine as an attractive gold-mining speculation under present conditions. On a 100-ton a day operation, the mine should be profitable, and it has possibilities of expansion beyond this.

(Sgd.) John D. Galloway.

JDG:H

TABLE NO. 1.

ASSAY RESULTS OF SAMPLES - DOLOMI MINE.

Sample Number	Gold Oz. per ton	Value	Silver Oz. per ton	Value	Width Sampled
1	0.02				3'9"
2	trace				4'
3	0.01				7'
4	0.36	12.60			3'
5	0.04	1.40			4'
6	0.16	5.60			Grab
7	0.24	8.40			Grab
8	0.12	4.20			Grab
9	0.11	3.85			Grab
10	0.12	4.20			1'6"
11	0.04	1.40	2.7	1.72	5'
12	0.28	9.80	15.3	9.79	4'
13	0.24	8.40	7.8	4.99	Grab
14	0.66	23.10	50.9	32.57	Selected high grade
15	0.02				4'
16	0.10	3.50			Grab
17	0.06				4'
18	0.46	16.10	0.94	.60	3'
19	1.16	40.60	2.3	1.47	Grab
20	0.58	20.30			Grab
21	0.37	12.95			1'9"
22	0.10	3.50			1'7"
23	0.02	0.70			3'3"
24	0.01				2'8"
25	0.05				3'
26	0.08				Selected
27	0.03				5'
28	0.06	2.10			3'
29	0.03	1.05			3'10"
30	0.32	11.20			5'
31	0.39	13.65			1'5"
32	0.02	0.70			2'8"
33	0.09	3.15			2'6"
34	0.16	5.60			4'
35	0.04	1.40			3'6"
36	0.10	3.50			2'8"
37	0.22	7.70			2'2"
38	0.21	7.35			4'
39	0.34	11.90			2'10"
40	0.30	10.50			2'
41	0.54	18.90			2'9"
42	0.10	3.50			2'
43	0.03	1.05			2'3"
44	0.32	11.20			4'3"
45	0.27	9.45			3'
46	0.28	9.80			3'9"
47	0.21	7.35			3'6"
48	0.10	3.50			3'
49	0.04	1.40			3'6"
50	0.07	2.45			4'
51	0.09	3.15			1'2"
52	0.40	14.00			1'
53	0.14	4.90			8"
54	0.04	1.40			1"
55	0.005	.175			3'10"
56	0.14	4.90			1'6"
57	0.18	6.30	1.2	.76	Grab
58	0.04	1.40	0.10	.064	3'
59	0.30	10.50	0.92	.58	Grab
60	0.02	.70			3'4"
61	0.45	15.05			2'9"
62	0.12	4.20			4'6"

TABLE NO. 1 (Cont'd.)

ASSAY RESULTS OF SAMPLES - DOLONI MINE.

Sample Number	Gold Oz. Per ton	Value	Silver Oz. per ton	Value	Width Sampled
63	0.18	6.30			6'
64	0.10	3.50			2'
65	0.34	11.90			6'
66	0.28	9.80			5'
67	0.02	.70			1'8"
68	0.10	3.50			5'3"
69	0.09	3.51			1'3"
70	0.03	1.05			3'
71	0.18	6.30			3'6"
72	0.05	1.75			6'8"
73	0.02	.70			Grab
74	0.01	.35			3'6"
75	0.03	1.05			4'
76	Trace				3'6"
77	0.15	5.25			3'8"
78	1.12	39.20			5'3"
79	0.54	18.90			4'
80	0.52	18.20			2'6"
81	0.30	10.50			3'8"
82	0.20	7.00			4'
83	0.06	2.10			4'
84	0.08	2.80			4'3"
85	0.20	7.00			3'
86	0.26	9.10			2'6"
87	0.44	15.40			4'
88	1.32	46.20			3'9"
89	0.06	2.10			4'
90	0.45	15.75			2'8"
91	0.26	9.10			3'6"
92	0.06	2.10			3'6"
93	0.22	7.70			3'6"
94	0.66	23.10			3'
95	0.01	.35			3'5"
96	0.10	3.50			5'4"
97	0.10	3.50			5'
98	0.08	2.80			3'3"
99	0.16	5.60			4'5"
100	0.06	2.10			4'3"
101	0.32	11.20			3'6"
102	0.16	5.60			2'6"
103	0.58	20.30			2'6"
104	0.12	4.20			3'6"
105	0.04	1.40			3'3"
106	0.05	1.75			3'2"
107	0.12	4.20			2'11"
108	0.10	3.50			4'8"
109	2.36	82.60			4'
110	0.06	2.10			6'6"
111	0.23	9.05			4'9"
112	0.16	5.60			4'
113	0.94	32.90			4'
114	0.48	16.80			4'
115	0.19	6.65			5'8"
116	0.49	17.15			6'4"
117	0.49	17.17			3'9"
118	0.02	.70			3'6"
119	0.01	.35			3'8"
120	0.02	.70			4'4"
121	0.16	5.60			6'
122	0.04	1.40			6'6"
123	0.42	14.70			4'3"
124	0.12	4.20			4'3"
125	0.05	1.75			3'2"
126	0.04	1.40			4'

TABLE NO. 1 -(Cont'd.)

ASSAY RESULTS OF SAMPLES - DOLOMI MINE.

Sample Number	Gold Oz. Per ton.	Value	Silver Oz. Per Ton	Value	Width Sampled
127	0.10	3.50			5'
128	0.15	5.25			2'3"
129	0.09	3.15			8'
130	0.14	4.90			3'8"
131	0.01	.35			6'
132	0.005	.175			3'4"
133	0.03	1.05			4'8"
134					
135	0.18	6.30			4'
136	0.02	.70			7'
137	0.06	2.10			5'4"
138	0.03	1.05			3'9"
139	0.03	1.05			5'4"
140	0.04	1.40			
141	0.05	1.75			3'
142	0.08	2.80			4'
143	0.01	.35			4'6"
144	0.02	.70			4'2"
145	0.04	1.40			4'
146	0.01	.35			6'
147	0.13	4.55			6'
148	0.06	2.10			2'8"
149	0.04	1.40			2'7"
150	0.06	2.10			9'
151	0.02	.70			7'
152	0.27	9.45			3'6"
153	0.04	1.40			2'
154	0.44	15.40			4'
155	0.01	.35			3'6"
156	0.22	7.70			2'4"
157	0.08	2.80			2'7"
158	0.22	7.70			Grab
159	0.02	.70			6'6"
160	0.18	6.30			5'6"
161	0.05	1.75			5'
162	0.01	.35			3'6"
163	0.03	1.05			5'6"
164	0.07	2.45	Old Trailings		Grab
165	1.44	51.40	Concentrates		Grab

TABLE NO. 2.

ANALYSIS OF ASSAYS:

Name	Sample Nos.	Average Width	Value
[illegible]y	1 - 3	-	No commercial value
[illegible]anzon	4 - 9	3 to 4'	6.00
No.5 Beauty	10	1'6"	4.20
Salmon	15 and 16	4'6"	No commercial value
Keno	17	-	No commercial value
Paul Shaft	18 - 20	3'	25.82
West of Paul shaft	21 and 22	1'8"	8.22
-	23 and 27	-	No commercial value
-	28 and 47	3' (800' length)	7.05
	37 - 47	3' (140' length)	9.00
-	48 - 56	2'2" (400' length)	4.32
[illegible]assie Shaft	57 - 59	3' (2 dump samples)	6.03 8.40
	60 - 66	4'3"	7.35
-	67 - 73	-	Low values

TABLE NO. 2 - (Cont'd.)

Analysis of ASSAYS

Name	Sample Nos.	Average Width	Value
Paul Over tunnel	74, 75, 76 & 84	from face, 30' back	Low values
-	77 - 93 (84 out)	3'6"	15.47
1st Level Valparaiso	94 - 114	3'11"	11.53 (one high, ($82.60)
2nd Level Valparaiso	115 - 137	4'10"	4.50
Drainage tunnel	138 - 157	-	No commercial value except one section as given next.
-	152 - 156	3'1"	6.88
Fine Stope, 2nd Level	158	-	7.70
West 50 ft, Level	159 - 163	5'2"	2.00
Tailings	164	-	2.45
Concentrates	165	-	51.40

COPY

CAVE BUILDING, 567 Hornby St.,
Vancouver, B.C. -May 19th, 1934.

J.D. Galloway, Esq.,
Pacific Building,
Vancouver, B. C.

Dear Sir:

We have made a flotation and amalgamation test on the sample marked "Jessie Dump", and report the following results:-

The ore was ground wet, in a ball mill, to pass a 60-mesh, sieve, and agitated in a sub-aeration M.S. flotation unit with 1 lb. of sodium xanthate and 0.06 lbs. of pine oil per ton of ore.

	Weight per cent	GOLD Ozs. per ton.	GOLD Per cent value	SILVER Ozs. per ton	SILVER Per cent Value
Heads	100.0%	0.46	100.0%	1.7	100.0%
Concentrates	3.3%	13.60%	97.5%	45.4	88.1%
Tailings	96.7%	0.01	2.1%	0.2	11.4%

Amalgamation of the flotation tailings gave 0.6% further recovery, making a total recovery of the gold values of 98.1% and a ratio of concentration of 30.3 tons of ore into 1 ton of concentrate having a gold value of $462.40 (gold at $34 per oz.) and a silver assay of 45.4 oz. per ton.

In sieving the concentrate through 100-mesh, some coarse gold was recovered. Owing to the presence of graphite in this ore, cyaniding might be difficult, but flotation followed by blankets would give high recovery, with about half the cost of installation of the cyanide process.

Where transportation to a smelter is low, the lower grinding and flotation treatment costs on a 100 ton mill would offset the smelter charges, and thus initial costs could be kept down. Cyanidation of concentrate could be added later if the tonnage developed and further tests proved such to be advantageous.

Yours faithfully,

(Sgd.) C. S. ELDRIDGE & COMPANY

"C. S. Eldridge"

COPY

Cave Building, 567 Hornby Street,
Vancouver, B. C.
May 19th, 1934.

J. D. Galloway, Esq.,
Pacific Building,
Vancouver, B. C.

Dear Sir:

We have made a flotation and amalgamation test on an average of samples No. 94 to 114 inclusive, as per our report of the 7th inst., and report the following results:-

		GOLD		SILVER	
	Weight per cent.	Ozs. per ton	Per cent Value	Ozs. per ton	Per cent Value
Heads	100.0%	0.23	100.0%	0.38	100.0%
Concentrates	2.0%	10.52	91.5%	15.40	81.0%
Tailings	97.6%	0.02	8.5%	0.06	15.2%

Amalgamation of the Flotation tailings gave a further recovery of 2.6%, making a total recovery of 94.1% of the gold, and a ratio of concentration of 50 tons of ore into 1 ton of concentrate having a gold value of $357.68 per ton, and a silver assay of 15.4 ozs. per ton.

The ore was crushed to pass 60-mesh, and in sieving the concentrates through 100-mesh, some coarse free gold was separated. This suggests the following procedure.

Grinding through 60-mesh; flotation, followed by blankets, and either shipping combined concentrate, or regrinding it in amalgam barrel and recovering free gold, and cyaniding the balance of the concentrates.

Yours faithfully,

O. S. ELDRIDGE & COMPANY

(Signed) "O. S. Eldridge"

JOHN D. GALLOWAY

Consulting Mining Engineer

224 Pacific Building

Vancouver, B. C.

June 15th, 1934.

Colonel E. J. Ryan,
The Ryan Contracting Co. Ltd.,
445 Granville St.,
Vancouver, B. C.

Dear Sir:

It seems advisable now to supplement my report on your Dolomi mine property with additional information.

PROPERTY:

In addition to the 17 patented claims originally acquired, the Boston patented claim has been purchased from Mrs. Eardley. This claim was formerly known as the Beauty No. 3, and has important showings, described later in this report. The following claims have been located: -

Mayday No. 1
Mayday No. 2
Amy No. 1
Amy No. 2
Amy No. 3
Ryan No. 1
Ryan No. 2
Ryan No. 3
Beaver No. 1
Beaver No. 2
Beaver No. 3

Others are being located. Water power rights have been applied for on Tunnel Creek (Power Site A), Paul Creek (Power Site B), and on an unnamed creek flowing into Aiken Cove.

(Power Site C), - The total power that could be developed is approximately 1500 H.P. Property adjacent to Dolomi Harbour has been secured under Alaskan laws governing sites for manufacturing purposes.

The entire property therefore now includes an extensive mineral-bearing area, with abundant low cost power available for development, land for buildings, wharfage, etc., plenty of timber, all situated continuous to tide-water with an excellent harbour in which steamers can land freight. Conditions are ideal for an important mining enterprise and very low mining and milling costs should be obtained. The Alaska British Columbia Gold Mines Limited has been incorporated to handle the entire consolidated property.

Mineral Properties

My original report outlines the main showings on the Valparaiso, Paul, Paul Over, Jessie and Ammon properties. It is shown in that report that some ore of $10 and $15 grade is available to start with, and of course, the development recommended may show much more. However, the property as a whole promises substantial tonnages of lower grade ore, say $7 to $8. My idea is to commence operations with an objective of 100 tons a day of the better grade ore, providing power for this, and re-equipping the old mill. Later on the operation gradually treating lower-grade ore may expand to a much larger size.

The assay lists and discussion in the previous report indicate certain known important showings, but there are numerous veins on the present large consolidated property which warrant detail investigation.

In particular the recently purchased Boston claim, which lies to the east of Amazon creek is of decided interest; on this claim two or more veins occur, one of which is of importance. This vein is exposed in a short tunnel which shows it to be a strong quartz filled fissure up to 10 feet in width.

It occurs in limestone and schist, and, although slightly faulted, it is a healthy looking showing. Mineralization with sulphides is slight, but disseminated grey copper occurs in places. The following samples give an idea of the values:

Description	Gold Oz. per ton	Silver Oz. per ton	Total value Gold at $35. Silver at .64¢
Across 5' in tunnel	0.04	2.7	$ 3.12
Across 4' in tunnel	0.28	15.3	19.59
Grab sample of dump	0.24	7.8	13.39
Selected High Grade, showing grey copper	0.66	50.9	55.67

It is to be noted that the grey copper is rich in silver, as there was only a small percentage of this mineral in the samples. It is also believed that gold values are associated with the grey copper. Eliminating the selected sample the other three show $12 ore for a width of 4 to 5 feet.

This showing warrants development. A little more exploration could be done by tunneling, but sinking would be necessary before going far.

In the original report only brief mention is made of the Jessie shaft. There is dump from this shaft from which a few hundred tons of ore was hauled and milled by the lessers. Presumably this was the best part of the dump. The remaining tonnage on the dump amounts to 1500 or 2000 tons. Grab sampling of this dump, (two large samples), gave an average of $8.40 a ton ($35. gold). This dump could be hauled to the mill and treated at a profit of $4 to $5 a ton. The chief value is the definite indication that in the shaft workings, inaccessible on account of water, must be workable ore. Old records as to values confirm this. The Jessie shaft is therefore a promising place to open up when the property is equipped for development.

When the property is equipped with an assay office and an assayer is on the ground, detail sampling of the numerous veins and outcroppings is likely to show many points worth developing. Veins which show but little values in present surface outcroppings will require stripping and open-cutting, and ore shoots may be found. Generally speaking, the overburden is not deep and much information can be obtained at low cost by surface work.

I am,

Yours faithfully,

(Sgd.) John D. Galloway

JDG:M