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PREMIER GOLD MINING COMPANY LIMITED

Premier, B. C.

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Ahousat, B. C.,

February 16, 1939.

Mr. Bert F. Smith, Manager,  
Premier Gold Mining Co. Limited,  
Premier, B. C.

Dear Sir:

I submit herewith my report on the Portland group, which I examined last September.

I have been favorably impressed by the assays and geology of that group and was very disappointed that I was unable to obtain better samples on which to base my report, in the half completed opencuts.

While I have recommended it to Premier, I realize, of course, that it is a decided gamble on account of the lack of sufficient opencutting to define the zone. As I have noted in my report and as you will probably agree, it is very unlikely that Alphonse Thomas will ever complete the opencuts on the higher parts of his property. Considering the favorable assays on this portion of the ground, I think that Premier should continue this work further, starting with a small crew.

Realizing the gamble attached to acquiring properties at this stage of their development, I suggest that an examination option would be sufficient until the preliminary opencutting is completed. Six weeks should be quite ample time in which to complete this.

I believe that the Minister of Mines has indicated that the government will advance some money this year toward a tractor road into Summit lake, from the Big Missouri, and that the Consolidated is planning on building this. Its construction should, therefore, tend to reduce freighting costs to the Tide lake area.

The Tide lake district in general has possibilities and the advent of Premier into this district might spur prospecting activity and allow the Company to watch developments closely, if it is established on the Portland gr

Yours very truly,

E. G. Langille

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PREMIER GOLD MINING COMPANY LIMITED

Premier, B. C.

REPORT ON

THE PORTLAND GROUP

UPPER SALMON RIVER VALLEY

PORTLAND CANAL DISTRICT B C

INTRODUCTION Following instructions regarding certain properties in the Upper Salmon River Valley, I completed an examination of these about the middle of last September. The properties were the Josephine group, the East group and the Portland group. Of the three the Portland group lies farthest from tidewater; but, in their present stage of development, it is the most interesting.

CONCLUSIONS The Portland group is in a very preliminary stage of development, but has given some rather indefinite promises of becoming a producer of fairly high grade ore. Mr. Thomas, the owner of the group, has been working steadily every summer for several years on these claims. He shows little aptitude for this type of work, and it is doubtful if the more promising features of the property will be opened further if their development depends on him.

Under these circumstances, I recommend that Premier either consummate a deal with him, or secure an examination option from him, which will permit the Company to do the opencutting, that the sampling of the present work so urgently indicates.

The property, at present, may be considered only as a long chance gamble, but the indicated opencutting is not very extensive and it could be done for about \$2,500. The completion of this would give a very much more definite picture on which one could more readily base a future policy toward the property.

The assays in this report can be considered as indicative only. The bottoms of the majority of the opencuts has not reached solid bed rock and the samples were therefore of loose unrelated material. Furthermore the opencuts are so far apart in a heavily overburdened area that their correlation, while seemingly apparent, cannot be accepted as assured. The best section, as defined by three of these opencuts, showed a replacement deposit on an argillite-igneous contact. The deposit averaged 3.2 feet wide and covered a horizontal range of 320 feet and a vertical range of 200 feet. The average assay was 0.916 ozs. Au, 0.80 ozs. Ag for the width given above.

OWNERSHIP The sixteen claims are held by right of location by Alphonse Thomas of Hyder, Alaska. He was the original staker and has personally done all the development work on the group. He has no partners and the claims were all in good standing at the time of my examination. None of the ground surrounding the group was staked at that time, as far as he knew.

OWNER'S ATTITUDE TOWARD DEAL Mr. Thomas is very anxious to dispose of the claims, and states that he prefers to deal with the Premier Gold Mining Company. Any deal along the lines of a 70-30 division of the earnings when the property is brought into production would be attractive to him. At the time of examination he stated that he was not asking for any cash commitments, and would be satisfied with almost any deal that Premier might offer.

LOCATION The 16 claims of the Portland group are located on the headwaters of the Bowser River. This territory forms a small part of the large interior drainage basin known as the Naas River system, which, by a circuitous route, drains those areas immediately east of the shorter streams emptying directly into the sea at the heads of the Portland Canal and Observatory Inlet. The interior drainage basin may be entered over comparatively low passes by the shorter coastal streams, and this is the case with the Bowser river country, which can be reached conveniently by way of the Salmon river valley at the head of the Portland canal. As a result, the country at the headwaters of the Bowser river drainage area is now commonly spoken of as part of the Upper Salmon river valley.

The claims, lying 9 miles to the north of the Salmon and Bowser rivers divide are about 27 miles from tidewater at Stewart.

TRANSPORTATION Although the district in which the claims are situated has been little developed, it is serviced by a fair pack trail leaving the end of a truck road at the Big Missouri mine. This mine is 16 miles from Stewart. This leaves 11 miles of pack trail to reach the Portland group.

The pack trail from the Big Missouri is in comparatively good condition for packing when free from snow. Unfortunately, it has been located about 1700 feet higher than necessary to cross the divide, which is only 2800 feet in elevation. The higher parts of the trail are free from snow only from the last of June to the middle of September, and may be packed on from about the first of April to about the last of September, depending on seasonal changes of weather conditions.

At present no packing is being done over this trail as far as the Portland group, so that the rates applicable to the longer trip are unknown. It is doubtful, however, if they would be below 4 cents a pound, and freighting costs would constitute one of the largest expenses in preliminary work in this area.

DEVELOPMENT & MINERALIZATION The development work on this property has shown that a replacement deposit lies along an argillite-igneous contact. There are indications that this deposit consists of a main zone with a series of paralleling and branching leads; but deep overburden and absence of closely spaced opencuts makes the pattern impossible to determine. At present, however, the main zone appears to be the only part that is important.

The efforts of the owner have been confined, for the most part, to the showings at the lower elevations, and most of the work was done on a large opencut, which has a face about 40 feet in height on the side of a steep bluff. This opencut was examined and reported on by C. A. Sirom in September 1934, and will be mentioned only briefly here. The remainder of the development work is not very extensive, but very little additional work is necessary to gain much important information. This work would consist of deepening to solid bed rock all the present opencuts, and putting in several others between the present widely separated ones.

The replacement deposit shows much silicification with some calcite stringers. Pyrite and arsenopyrite are the most prevalent minerals, and these occur from a very sparsely disseminated form to a fairly massive form. The next mineral in order of abundance is sphalerite, followed by galena. These latter two are found only locally in small amounts, and their presence does not seem to be required for a sample to have high gold content. The gold appears to favor the pyrite and arsenopyrite mineralization.

DETAILS OF  
DEVELOPMENT#1A Opencut

This opencut, at an elevation of 4,000 feet is the highest point at which any work has been done on the property. It is a very shallow opencut in the bed of a small stream which has exposed solid bed rock. The zone here is only 1½ feet wide, showing sparse mineralization of pyrite cubes in brecciated andesite rock, which has argillite inclusions. The zone is only slightly silicified and in addition, contains narrow calcite stringers.

The lead strikes N 58 W and dips 76 degrees southerly. The outcrop is in a rather disturbed area, but a little farther to the east, the argillites show a definite strike of N 30 W and a dip of 66 easterly.

A sample across the zone width of 1½ feet assayed 0.03 ozs. Au, 0.61 ozs. Ag. This outcrop is a little too far to the south to be on line with the next three opencuts on the zone. This fact, together with the sparse mineralization and irregular argillite contact, suggests that this outcrop is not the main zone, which may follow a more definite contact a little farther to the northeast.

#1 Opencut

This opencut, at an elevation of 3855 feet, is 115 feet lower than 1 A opencut, and is located on the south bank of the same stream. The face of the opencut is 12 feet high, but the floor has not yet reached solid bed rock. The material in the bottom is very decomposed and earthy, with a few nigger heads of solid unleached zonal matter, which represents only about 4 percent of the total. These nigger heads show calcite and quartz stringers, carrying fair arsenopyrite and slight pyrite mineralization. A pre-mineral diorite dyke on the south side of the zone is slightly silicified and mineralized. The indefinite walls of the zone in the opencut indicate a strike of N 50 W and a dip of 65 southerly.

A sample of solid pieces picked out of the decomposed earthy material across 2 feet on the north side of the zone assayed 0.39 ozs. Au, 0.29 ozs. Ag. A similar sample across the remaining 5 feet to the dyke on the south side assayed 0.01 ozs. Au, 0.03 ozs. Ag, while a muck grab of the decomposed earthy zonal material across the full width of the cut assayed 0.20 ozs. Au, 0.48 ozs. Ag.

#2 Opencut

This opencut, at an elevation of 3780 is about 100 feet lower than #1 opencut and similarly located with reference to the small stream. Other conditions such as strike, dip, weathering and mineralization are also similar. The amount of solid matter has, however, increased slightly over the amount in No. 1 opencut, being about 10% of the total.

A sample of the niggerheads across 5 feet in the opencut assayed 0.62 ozs. Au, 0.58 ozs. Ag. Considerable brecciated argillite indicated that the zone was at or near the argillite-igneous contact as in the first two opencuts.

#3 Opencut

This opencut, at an elevation of 3630 feet, is situated in the bed of a small stream running parallel and about 100 feet to the south of the creek already mentioned in the other opencuts. No. 3 opencut is on the argillite-igneous contact, which is rather irregular there, being further complicated by a pre-mineral dyke, striking S 10 W and dipping steeply eastward. The zone strikes N 80 W at that point; but the presence of the dyke may have given the zone a slight variation locally from

what appears to be a more northerly strike in the previously described opencut. Very little work has been done, but the creek has exposed the vein in solid bedrock.

A 2½ foot channel sample across the northerly side of the zone showed well silicified andesite containing slight pyrite and arsenopyrite. This sample assayed 1.93 ozs. au, 1.67 ozs. ag. A corresponding sample on the south side of the zone in only very slightly less mineralization assayed 0.01 ozs. au, 0.09 ozs. ag, indicating that values are liable to be spotty.

#### #4 Opencut

This opencut, at an elevation of 3,475 feet, is 155 feet lower than No. 3, and 140 feet S 85 W from No. 5, which is called the Big Cut by the owner of the property. Although No. 4 opencut has been excavated to a depth of 6 feet, it is still in loose brecciated and oxidized material about 75% of which is more or less solid matter. The solid pieces are well silicified and contain slight arsenopyrite and pyrite and very slight sphalerite mineralization.

Samples taken in this zone, which is 4.2 feet wide, assayed 0.03 to 0.05 ozs. au, 0.23 to 0.25 ozs. ag. The zone strikes N 60 W and dips 74 degrees southerly at that point.

An outcrop 5 feet northerly from the north end of No. 4 opencut shows 1 foot of a well silicified lead, which has fair sphalerite, galena, pyrite and arsenopyrite mineralization. The dip and strike of this is similar to that in No. 4 opencut. A sample across the one-foot stringer assayed 1.95 ozs. au, 2.37 ozs. ag.

#### #5, or The Big Cut

This opencut is at an elevation of 3300 feet. It was sampled by Dixon in 1934, and, as shown in his report, the tenor of the values is very low. Consequently only 4 reference samples were taken of the best mineralization, which was found in the south end of the cut. These assayed from 0.04 to 0.10 ozs. au and from 0.27 to 0.55 ozs. ag. Although slight mineralization occurred across the face of the opencut for 20 feet the best mineralized stringer was 2 feet wide. This had a strike of S 75 W and a dip of 85 southerly. The mineralization, which is very similar to that in No. 4 opencut consists of slight pyrite, arsenopyrite and galena. The dips and strikes, however, vary somewhat, and so these two opencuts are probably in different leads or branches from the main contact replacement zone.

The Big Cut is on the argillite-igneous contact, which is very irregularly defined at that point. The opencut shows that large islands of argillite occur within the andesite formation and that undisturbed sediments occupy the northeast end of the opencut. They show there narrowly intercalated bands of greywacke and the formation strikes N 30 W and dips 54 easterly.

Conforming with the rest of the area at the bottom of the hill, there is much cross fracturing in the opencut. Some of these cross fractures are filled with quartz, but they pinch out within the limits of the opencut. The strike of the most prominent cross fractures is S 15 W.

#### Tunnel

An adit, which at the time of the writer's examination had been driven only 8 feet, has been started on what is considered by the owner to be the same lead as is shown in the southwest end of the Big Cut. It is, however, probably on a parallel-

ing fracture system which lies a little to the south.

The portal is 120 feet southeasterly from the Big Out, and conditions geologically, are very similar to it. The rock is a hard and coarse andesite holding inclusions of argillites. It is much fractured into two main systems of S 85 W and N 75 W. None of these fractures has any controlling influence on mineralization, which is very indefinite and sparse in the slightly to fairly well silicified rock. A few narrow quartz stringers reticulate across the face, but these too seem to have no definite relation to any zonal system. Channel samples across the face of the tunnel assayed from 0.01 to 0.05 ozs. au and from 0.13 to 0.15 ozs. ag.

The surface to the south of the adit has been swept bare by recently receded ice. The exposed andesitic formation shows the same cross fractured condition as at the tunnel, except that in this area the chief fractures strike N 10 W and N 70 W and all dip southerly. Many of these fractures are filled with quartz, which in the widest attains a width of 6 inches. These stringers are usually barren but a 2 inch quartz lead containing slight sphalerite, galena and pyrite was noted about 200 feet north of the tunnel. A sample of this returned an assay of 0.15 ozs. au, 0.67 ozs. ag.

#### General Summary of the Opencuts and Samplings:

The lead or leads on the Portland group follow an argillite-igneous contact, which strikes almost directly up the 38 degree slope on which the showings appear. The lower part of this slope has been bared recently by a glacier, and the denuded rock shows much cross fracturing, which is too prevalent to favor mineral deposition of commercial value. It is in this area that the owner has done most of his development work, including the tunnel, which he started last summer, and intends to drive ahead next season. The assays in this section, which includes the Big Out, have been generally low and the mineralization on the whole is sparse and scattered.

The slope of the hill, rising from a glacier filled valley reaches an altitude of 4,000 feet at the highest opencut, which is 770 feet above the tunnel. This latter is the lowest working, which is 200 feet above the glacier. The hillside is covered with deep overburden from about 300 feet above the glacier, and, of the 5 opencuts in this area, only 2 in the beds of small streams have reached solid bedrock. Opencuts are as much as 280 feet apart, and, considering the deep overburden, correlation of the leads exposed cannot be assured. Three of these opencuts are, however, in line while the other two are nearly so, and, considering that they all show the argillite-igneous contact and similar mineralization, it is quite a reasonable assumption that some or all are on the same lead.

The lead is one of the two opencuts, which show showed fresh rock as well silicified and only slightly mineralized with pyrite and arsenopyrite. A 2½ foot channel sample assayed 1.93 ozs. au, 1.67 ozs. ag. The other opencuts except the top one showed only very decomposed and earthy zonal material, which was well oxidized and contained nigger heads of well silicified and fairly well mineralized specimens. This solid matter represented from about 5 to 75 percent of the whole in the various opencuts and assayed as high as 0.62 ozs. au, 0.58 ozs. ag over a width of 5 feet. A sample of the earthy material in one of the opencuts assayed 0.20 ozs. au, 0.45 ozs. ag.

Three of the opencuts, which are in line and cover a horizontal range of 320 feet and a vertical range of 200 feet, exposed an averaged width of 3.2 feet for the lead, and gave an average assay of 0.916 ozs. au, 0.80 ozs. ag across the width. These samples are, of course, only indicative, because they are in the case of the two of the opencuts, from niggerheads sorted out of the decomposed zonal material, and do not offer reliable sampling. It is, however, to be noted that the cut giving a fresh rock surface gave also, the highest assay of the three. There is, of course,

PORTLAND GROUP - Upper Salmon R. Valley

E. G. Lentillo

no way of

knowing if residual enrichment is partly responsible for values in the other opencuts but, seeing that solid rock has given such high assays it would appear that the assays of the niggerheads might be fairly representative.

GEOLOGY

The argillite and greywacke sediments underlying the eastern part of the Portland property are placed, tentatively, by Hanson, in the Upper Hazelton group of Jurassic and Triassic rocks in his G.S.C. Memoir 175. While this series of the Hazelton group is devoid of economically important minerals in other parts of the district, he is of the opinion that this is only caused by the absence of a mineral bearing intrusive and not to their position in the Geological scale or to any innate characteristic of their own. A large irregular mineral bearing granodiorite stock, which occurs 3 miles to the south of the Portland group, could through outliers be a source of mineral solutions for the sediments and other rock types on the Portland property.

The outstanding geological feature on the Portland group is the argillite igneous contact, occurring in the western part of the group. The igneous mass underlying the southwestern portion of the group is a hypabyssal type, which, in hand specimens, has an andosite appearance. It is a fairly hard, greyish green and slightly coarse textured rock. Its intrusive nature is shown by the irregular contact striking across the strata of the argillites and by the argillite inclusions from stoped-off masses during the intrusion. On the lower parts of the claims, where the andosite is bare, much cross fracturing is in evidence. The higher portions of the claims are too heavily overburdened to disclose if this too prevalent fracturing is a characteristic here also. However the few opencuts, which show that a replacement deposit exists over a vertical range of 400 feet and a horizontal range of 500 feet, demonstrate that structural conditions for extensive ore bodies exist on the group.

A glacier which sweeps down to the Tide lake flats through a deep narrow valley from the high elevations to the west of the group gives a natural cross-section of the sedimentary-igneous contact. This crosssection, on the steep mountain side across the glacier opposite the Portland group, shows that the contact has a 77 degree dip to the northeast, and that the sediments, which form part of a greatly disturbed anticline, are dipping away from the contact at a slight angle which is also to the northeast. Owing to the deep overburden, the dip of the contact on the Portland group cannot be so accurately determined, but it is about the same angle, but in the opposite direction. This reverse dip may have had some effect on the concentration of ore at this part of the sedimentary-igneous contact.

The strike of the contact on the Portland group is approximately N 75 E, varying considerably from the N 30 W strike of the sediments. The contact, cutting across the strata at an angle of 45 degrees, has reached a point of the anticline where the strata is dipping at an angle of 60 degrees to the southeast compared to the much steeper angle of dip near the contact as shown in the natural crosssection on the mountain opposite the Portland group.

CAMP FACILITIES  
AND  
MINING CONDITIONS

Except for a small prospectors cabin there are no buildings on the property, and this cabin is too small for any use by a mining company. Excellent campsites, however, may be had on the east part of the claims, but, owing to the lack of an adequate water supply,

near the present workings on this side of the hill, these sites would probably be too remote for an initial development program. The streams in which Nos. 1-A and #3 opencuts are located would supply enough water for a small crew, and a preliminary camp could be constructed near them on the hillside sloping steeply to the south. The Tide lake flats themselves, at an elevation of 2200 feet, are only about one mile from the showings and if the property ever reaches the production stage, a permanent camp could be erected there.

The eastern side of the mountain has a fairly gentle slope from the Tide lake flats up to the portal of the tunnel at an elevation of 3230 feet. Thus adit crosscuts to the zone below this elevation would be fairly long with the lowest a little more than one mile in length. The hillside is well wooded with good mining timber and a fair pack trail exists from the flats to the cabin, which is near the tunnel.

An inspection of the assay plan will show the awkwardness of doing any diamond drilling, since the contours run at right angles with the zone. This disadvantage is somewhat offset by the depth condition information given by the outcrops on the steep hillside.

An excellent hydro electric power site is at present undeveloped at the outlet of summit lake. Depending on the size of storage dam put in at the narrow outlet of the lake, up to about 2500 horsepower could be developed throughout the year. The drop of 500 feet from Summit lake to Tide lake takes place in a distance less than a mile, and there is only four miles of flat lake bed between there and the Portland group. Consequently, such items as penstock and power lines would not require large outlays of capital.

The arsenical nature of the ores and the fairly long distance from tidewater are features of this property which will require to be offset by corresponding higher values in the deposit. The little work done so far has indicated fairly rich ore, and the Premier Gold Mining Company should be justified in continuing this work unless these high values are shown to be only very local in their occurrence.

Respectfully submitted,

E. G. Langille.



PREMIER GOLD MINING COMPANY LIMITED

Premier, B. C.

July 31, 1940

PROGRESS REPORT ON THE  
PREMIER PORTLAND GROUP

**INTRODUCTION** A high inaccessible cliff borders the Thomas glacier to the southwest of where the stream, along which the showings are located, flows under the ice. With the above exception this section of the Premier Portland Group is almost entirely overburdened with morainal material or by alder slides and mountain hemlock growing in what appears to be shallow surface soils.

The scarcity of rock outcrops makes it difficult to geologize the claims. Additional information has, however, been obtained from the underground development, from a few scattered outcrops and from float on the steep hillsides. This information is given herewith to supplement my 1938 report on the property.

**SURFACE GEOLOGY** In a general way the area may be divided geologically into three sections. The northern part is underlain by sediments, while the southern part, including a portion of the high rock cliffs, is underlain by volcanics. In between these two rock types is a contact zone approximately 250 feet wide on the northern edge of which occurs the mineral showings, which the Company has at present under development.

**SEDIMENTS** The sedimentary rocks have argillaceous and greywacke phases. In some cases these two types are thinly intercalated with each other, and in other instances the few scattered outcrops and hillside debris indicate that wide areas may be underlain with either type.

The greywacke is composed of broken crystals and fragmental rocks. The main constituents are hornblende and feldspar giving the rock a granitic appearance. In its wider bands the greywacke is quite coarse, but in narrower bands it becomes much finer, resembling a sandstone or grit.

**VOLCANICS** The volcanic rocks are probably closely related to the rocks which border on the same side of the sedimentary body about 3 miles farther southerly. Dr. George Hanson of the Canadian Geological Survey staff has termed the formation at that point as an intrusive andesite. In hand specimens the rock is a greyish green, fine grained mass and bears little resemblance to a dioritic rock, which Hanson's hybrid term of "intrusive andesite" indicates. While the rock has, in some specimens, a shadowy crystalline form, in others it shows distinct fragments and all in all has the appearance of a volcanic. Structurally, however, the rock possesses an intrusive nature cutting across the sedimentary strata at an acute angle. Practically the only exposure of this formation is along the high cliffs mentioned previously and a detailed inspection of the contact is impossible to obtain.

**CONTACT ZONE** The sedimentary formation within approximately 250 feet of the volcanics is slightly siltified and locally shattered and crushed. The actual contact, except on the high cliffs is overburdened, so it is impossible to determine the width of this contact zone or the distance the vein or veins on which the Premier Company is working, are located from the contact.

With the exception of a small isolated outcrop of volcanics, the contact zone appears to be entirely of argillite, tuffaceous argillites and greywacke. Formations in some of the opencuts are, however, well silicified and may be phases of the volcanics, especially at the large opencut, No. 5. The other opencuts, at higher elevations, have been excavated in sedimentary rocks, where the vein occurs on an argillite-greywacke contact.

**RESULTS OF OPENCUTTING** An opencut, No. 2-A, has been put in about 40 feet easterly from No. 2. It has shown a strong, gouge-filled slip, but so far no vein material. Another opencut, No. 3-A, has shown that the vein continues on strike westerly from No. 3 opencut, and does not turn to become a continuation of the vein as exposed in Nos. 1 and 2 opencuts, where, however, the vein may be a section of the vein in No. 3 opencut set over on the slip disclosed in No. 2-A opencut.

The vein in No. 3-A opencut had not been exposed deep enough to get solid vein material. A one inch stringer on the H.W.S. carried strong pyrite mineralization and small amounts of galena and sphalerite. It assayed 0.23 ozs. Au, 0.29 ozs. Ag. The F.W.S. had 1.0 feet of barren decomposed quartz and argillite, which assayed 0.08 ozs. Au, 0.62 ozs. Ag. Both walls are well silicified. The contractor in charge reports that the opencut has now been deepened four feet showing a 2-foot vein with 4 feet of well mineralized quartz on the F.W.S. A sample across the 4-foot assayed trace, while a sample from the 2-foot vein assayed 0.15 ozs. Au, 0.27 ozs. Ag.

An effort was made to pick up the vein westerly from No. 3-A O-C, but the overburden was found to be too deep to be penetrated. An opencut approximately 60 feet easterly from No. 3 O/C is reported by the contractor to have found the vein, which is here 1.1 feet wide. As sampled by the contractor, this assayed 0.07 ozs. Au, 0.23 ozs. Ag. The sample, however, consisted of decomposed material and better results may be obtained from fresher vein matter at greater depth in the opencut.

**RESULTS OF UNDERGROUND DEVELOPMENT** The tunnel as last reported had been driven 78 feet from the portal with an additional three rounds of crosscutting. After penetrating the decomposed surface material, the tunnel disclosed a strong vein with free walls. It was fairly well mineralized with pyrite, galena and sphalerite and to a lesser degree, with arsenopyrite. Mineralization, however, was on the whole, not as heavy as in the opencut No. 4 just above the portal.

The vein averaged 1.04 feet wide from portal plus 17 feet to portal plus 32 feet, with an average assay of 0.60 ozs. Au, 1.17 ozs. Ag. At this point the vein started to pinch, becoming a mere fracture at portal plus 42 feet. This section averaged 0.3 feet wide and had an average assay of 0.17 ozs. Au, 0.75 ozs. Ag.

Coincident with the pinching out of the vein, the argillite formation which had persisted on the H.W.S., also disappeared giving place to the footwall silicified greywacke formation.

From this point the fracture becomes rather weak and the rock is fairly well shattered. Several minor fractures appeared but little or no shearing. The formation became firmer at portal plus 65 feet, and a crosscut round in the right wall is reported by the contractor in charge to have picked up the vein, which has again widened to 1.0 feet. Two drift rounds on the vein averaged 0.04 ozs. Au, 0.20 ozs. Ag over an average width of 0.9 feet. The reappearance of the vein has been accompanied by the reappearance of the argillite formation.

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The vein strikes N 81 W and the dip averages 80 deg. southerly. This strike is approximately 20 deg. more westerly than the general strike of the strata, while the dip is a reverse dip to that of the strata. This cross-cutting feature of the vein with the strata is an indication of strength, which, however, has been denied so far by results underground. This, of course, may be only a local condition, but unless the underground results improve soon, both in grade and width, I am under the impression that work should be discontinued at this point, and some further surface opencutting done up the hill westerly from No. 3 opencut. The opencutting farther up the hill shows more promise of a wider lead and better grade, and should the results of this work prove encouraging, the work in the lower tunnel should be left in abeyance until this area has been more thoroughly explored, possibly by drifting on the vein.

In this higher section of the showings No. 2 opencut has been deepened in an attempt to get down to solid vein matter, but with an 18 foot face the vein is still as badly decomposed and only a few well mineralized niggerheads are obtainable. These are concentrated across 0.5 feet on the E.W.S. and assayed 0.52 ozs. Au, 2.84 ozs. Ag. A sample of barren decomposed quartz and argillites assayed 0.25 ozs. Au, 0.79 ozs. Ag across 4.5 feet on the F.W.S. Our original sampling across the 5 feet gave an assay of 0.62 ozs. Au, 0.58 ozs. Ag.

Development work on the lower section of the showings has not given encouraging results. Should work on the higher section prove similarly disappointing, showing that the values are too spotty or that the surface sampling contained residual enrichment, the property, in my opinion, would not be worthy of further expenditures.

Respectfully submitted,

E. G. Langille.

Premier, B. C.,  
July 31, 1940.