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Gentlemen:

re. Wagner Showings, Lardeau District

The following is a preliminary report on the Wagner showings in the Lardeau District on an examination made by L. White and H. Huestis September 11th, 12th and 13th, 1946. Due to adverse weather conditions the trip was not completed to satisfaction, but enough was examined and sampled to satisfy the writers that the property has possibilities and requires further investigation.

CONCLUSIONS & RECOMMENDATIONS:

From preliminary results obtained, it is recommended that a definite sampling campaign of the Wagner property be carried out. Heavy moiling and blasting is necessary to get good representative samples.

The strong structural features of the Wagner showing impressed both writers. There is not much doubt that the same structure exists on both sides of the Hall Creek basin.

The present groups of claims are insufficient to cover all the important ground, therefore we suggest that staking be carried out as follows:

- (1) Cover the Eastern boundary along the lime contact for at least five miles.
- (2) Stake three claims deep, west of the present Crown-granted claims included in the Wagner group.
- (3) Cover the two basins at the head of Healy Creek.
- (4) Pick up Crown-granted claims within the zonal area.

A temporary sampling campaign should be organized as follows:

- (1) Brush out, cut windfalls and repair foot-bridges for back-packing purposes along the entire Healy Creek trail.

- (2) Take in small hand crusher to aid in cutting down large bulk samples which are necessary to thoroughly sample such a wide zone.
- (3) Blast fresh surfaces on all outcroppings.
- (4) Clean out all original workings preparatory to sampling.

The above temporary sampling arrangement will cost approximately \$2,000.00.

If the above program shows satisfactory results, the next phase of exploration and development will include:

- (a) Completing trail for pack-horse purposes.
- (b) Organizing a mapping and diamond drilling program.

The cost of the secondary program will be determined from results of the temporary sampling campaign.

PROPERTIES:

Two groups of mineral claims were examined; namely, the Wagner and the Jewel. Both groups are owned by C. Porter and Associates of Spokane, Wash.

The Wagner group consists of the Ella, Guld Jim, Duncan, Coffin Nail #1 and #2, Lardeau, Princess Marie and Queen Mary mineral claims and the McCartney and Lardeau fractional claims.

The Jewel group consists of the Emma No. 1, Francis Jewel and Lucille K. claims and the Jewel fractional claim.

LOCATION:

The belt of claims is located on the north and south slopes of the basin at the head of Hall Creek; part in the Ainsworth and the balance in the Trout Lake Mining Division, West Kootenay District. The northerly group of claims continues over the divide separating Hall and Caribou Creeks.

The general topography is extremely rugged. The average elevation of the area is approximately 6,000 ft.

The area, at present, is quite inaccessible. Two trails lead to the property, one from the Duncan River up Hall Creek to its source, the other following Healy Creek for a distance of 18 miles from the Lardeau River. Both trails traverse the creek gradients and are subject to destruction by snow and mud slides.

The grade of the Healy Creek trail is not excessive, excepting the last four miles of "switchbacks" to the summit separating Healy and Hall Creeks.

Vegetation is dense along the Healy Creek trail. Cedar and hemlock predominate at the lower altitudes grading into spruce and balsam in the upper reaches of the trail. All the showings are above timber line with no easily available timber for mining purposes.

An ice-sheet covers the McCartney fraction and portions of the Duncan and Lardeau mineral claims. It is not feasible to contemplate landing of aircraft on the sheet.

DESCRIPTION AND GEOLOGY:

In general, the showings consist of extensive quartz vein outcroppings containing sulphides of the metals Pb, Zn, Ag and Fe in varying amounts at different horizons. There are a series of parallel intermediate veins on the hanging-wall side of the main fissure, but preliminary examination indicates distinct lack of mineralization on the surface.

The main quartz structure occupies a shear zone in carbonaceous sediments paralleling the contact with the marblised limestone structure, commonly known as the "Great Line Dyke". The dip of the vein conforms roughly with the bedding planes of the tilted sediments, being about 70° to the south-west. The general strike of all the formations is north-west south-east.

The only igneous rock in evidence is an aplite dyke or sill, which borders the main quartz structure for its entire length. On the northern section of the outcroppings the sill forms the footwall of the vein. Along the southern slope of the basin the same, or similar, structure was noted on the hanging-wall or west side. The sill is well mineralized with pyrite and may, or may not, have some relationship to the vein mineralization.

The black slates in which the fissure occurs have been highly altered in contact with the vein, forming graphitic schists.

The only evidence of replacement along the main fissure was noted at the outcropping, 600' below the face of the glacier. On the hanging-wall side of the vein the quartz has penetrated and partially replaced the limestone for about 40'.

The first workings examined were those on the Francis Jewel and Lucille K. claims on the southern slope of the Hall Creek basin. The surface cuts and the reported tunnel are all caved and inaccessible, but indications are sufficient to recognize the main shear zone striking to the south-east, up over the slope.

There is a pile of well mineralized quartz on the dump of the old tunnel working. Picking into the side of the cut exposed exceptionally good zone material. Mineralization consisted of galena, pyrite and some grey copper. The elevation of this exposure approximates that of the one on the Princess Marie claim, across the basin.

The zone was traced over the slope for a distance of 2,000'. Mineralization was uncovered at the higher elevation.

The southerly extension of the zone gets closer to the contact of the limestone and the slates.

The outcropping on the Princess Marie and Queen Mary claims occurs as a strong quartz structure paralleling the steep gradient of Hall Creek.

For a distance of 220 ft. on the Queen Mary claim at an elevation of 5,250 ft. the creek has eroded away the footwall section of the vein to a depth of about 7 ft., leaving it exposed as a strong wall dipping 70° to the southwest.

Scrub bush and moss covers the major portion of the hanging wall side of the vein, making it difficult to sample properly. A sample across 2-1/2 ft. of the exposed footwall section returned only trace values.

At the lower end of this huge outcropping, a solid band of sulphides, 18" wide, is exposed, dipping 45° to the west. The structure is apparently a continuation of the major zone; the change in dip probably due to minor local folding. Pyrite mineralization predominates across the vein. Sampling returned trace values.

The creek cuts across the vein on the border of the Princess Marie and Queen Mary claims, having eroded the hanging wall of the vein structure for an observed distance of 400 ft. upstream. At the cross-over point the vein has an exposure width of 12 ft. Small streaks of mineralization were observed in the quartz paralleling the strike of the vein. A sample across 12 ft. gave only trace values.

Descent into the creek gully, 300' up Hall Creek, revealed the exposure continuing on strike of No. 20° W. up the slope. Bunched and banded mineralization are in evidence.

Deep glacial till covers the structure on the upper part of the Princess Marie and the Lardeau fractional claims. An outcropping occurs 600' down the creek from the face of the glacier.

At this exposure the creek has eroded away the footwall and better mineralized section of the vein. Large chunks of pure galena and other boulders containing pyrite mineralization are scattered throughout the till below the outcropping.

It is at this point the vein has penetrated and partially replaced the limestone hanging wall.

The dip of the vein at this exposure is approximately  $60^\circ$  to the south-west. The strike is N.  $50^\circ$  W.

A very well mineralized exposure occurs in the creek 200' on the slope below the glacier.

The vein at this point has an exposure width of 12 ft. Bands of mineralization, varying in width from a 1/2" to 4", parallel the strike of the structure.

Sampling across 12 ft. yielded values of 3.7 ozs. of silver, 4% lead, and 1.6% zinc to the ton. From surface observation both writers expressed belief that the above values are not representative of the exposure.

Outcropping on the Duncan claim occurs on strike, 2600 ft. horizontally from the exposure below the glacier. There is every indication to believe that the exposure on the Lardeau and the Duncan claims are the one and same structure.

At the head of the glacier the vein structure stands out on the steep mountain front as two separate leads.

The most westerly vein is about 25 ft. in width. It is very sparsely mineralized. A sample across 10 ft. returned trace values.

The footwall vein, 150 ft. to the east, has an exposure width of 7.5 ft. It is well mineralized with streaks of lead, pyrite and some grey copper. Assay returns are 2.3 oz. silver, 1.9% lead and 1.6% zinc to the ton across 7.5 ft.

One hundred and fifty ft. vertically above the glacier is the portal to the original Duncan tunnel. Unsuccessful attempts were made to gain access to the tunnel in order to verify Porter's reports.

Quoting his reports he states "a tunnel has been driven along the footwall side of the ore, 100' in width. About 20" to 2' of the ore on the footwall side is quite clean and solid, carrying grey copper. The balance of the ledge is good concentrating ore. At a point 60' from the portal of the tunnel, a station is blasted out or cut into the ledge about 9' wide and 12' long. Here a winze is sunk 55'.

"At the bottom of the winze a drift was run 20' to the N.W. From the end of this drift a crosscut was driven to the left, cutting an ore-body 12' wide. The ore exposed in this crosscut is very much the same as that in the crosscut at the face of the tunnel.

Gunning, in his 1929 report, verifies Mr. Porter's description on the Duncan tunnel; so we are reasonably safe in assuming the exactness of the above quotation.

The highest outcropping examined occurs 50' vertically above the face of the tunnel and 100' down from the extreme top of the divide separating Hall and Caribou Creeks. Projected down it should conform with the vein in the tunnel.

Two feet of heavy mineralization on the hanging wall side of the vein assayed 40.4 oz. Ag, 27.3% Pb, and 2.6% Zn to the ton. The remaining 6 ft. of vein material on the footwall side ran 10.25 ozs. Ag, 4.4% Pb and 0.1% Zn to the ton.

Observation from the top of the summit into the Caribou Creek basin showed the shear zone extending to the N.W.

All in all, 7 outcroppings were examined over a scaled horizontal distance of 2 miles. Difference in elevation between the lowest outcrop examined and the highest would approximate 3,000 ft. vertically.

Surface analysis of the mineralized content and assay results of the samples tend to the conclusion that the concentration of values of the different minerals is zonal. Pyrite mineralization predominates at the lower elevations grading into lead and zinc nearer the top.

The theory of horizontal horizons of metal concentration in this showing is purely suppositional and should be treated as such.

Although sampling results in most instances were not up to expectations of the writers, it must be noted that they were "hand chips" which are not very effective in getting a thorough representation of such a strong structure.

Respectfully submitted,

"L. White"

L. White, M.E.,

"H.H. Huestis"

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