

924/2W
924-84

012476

(15)

Copy for W. Wacker

R E P O R T O N

"L. M." AND "P.M." MINERAL CLAIMS

ZEBALLOS RIVER AREA

by

W. H. PATMORE

September 19, 1937

REPORT ON
L.M. AND P.M. MINERAL CLAIMS
ZEBALLOS RIVER AREA

September 19th 1937.

W. H. Patmore.

CLAIMS: Two claims known as the L.M. and P.M. compose this group.

OWNERS: The ground was staked and the L.M. has been surveyed by the firm of Hawkins and Horie, Standard Bank Building, Vancouver, B.C.

LOCATION: These claims are favourably situated within that area designated as the Zeballos "Gold Horizon"-- an area approximately 5 miles long and 3 miles wide, which to date has been delimited by an encircling group of sulphide deposits almost entirely lacking in gold values. Also it is surrounded on three sides by fracture-bearing claims of potential commercial value - namely, the 'Trites' "North Star" group, from which very favourable assays have been had, the "Gold Fields" property to which a concentrating mill is now being delivered ('Trites'), and the "Rey Oro" property now under development by Ed. Brown and associates. It might be noted that the writer spent several weeks examining all of these properties as well as all others of interest in the Zeballos Camp. Further, the writer was present at the "Rey Oro" camp when a small but rich lense of free gold ore was encountered

in the usual sulphide and quartz. The "L.M." and "P.M." are two good-sized claims lying on the NE slope of Gold Creek Valley, approximately three-quarters of a mile E of the "Rey Oro" camp and adjoining the "Rimy" Group on the NW, with Trites' "Golden Key" and "Golden Nugget" Claims on the S.E. Total distance of the showings from salt water by road and trail amounts to $7\frac{3}{4}$ miles.

TRANSPORTATION: At the present time a 4 mile truck road, poorly graded, leads up Zeballos River as far as Spud Creek, from which point a 3 mile foot trail, that could be readily adjusted to pack-horses, follows the main Zeballos and then Gold Creek. This trail is well cut out for a distance of 2 miles up Gold Creek Valley, from which point a blazed line $\frac{3}{4}$ of a mile in length leads to the lower showings. To date, all packing in Zeballos has been done by man-power, but relatively little time and work would result in a good pack-horse trail to the claims. The writer considers such a horse trail essential for the rapid opening up of these deposits. It is well to note that, with the present activity displayed by two properties in the valley, the time will not be long before consideration is given to construction of a truck road up Gold Creek Valley. Such a road would pass within a few hundred feet of the lower part of the "L.M." and "P.M." Mineral Claims, which lie at an elevation of approximately 1600' to 2500' above sea level.

TIMBER: Numerous varieties of trees are present on both claims. These include excellent red and yellow cedar, hemlock, fir and spruce of all sizes.

WATER POWER: At present all mining in Gold Creek Valley is done by hand, and early development would require diesel power. Should the future warrant it a suitable source of energy could be had at Zeballos Lake, between 4 and 5 miles distant.

MINING: Most of the properties in the Zeballos area are in rather tough rock types, such as silicified andesites and quartz-diorites. These are somewhat hard on steel, but have one great advantage in that practically no timbering is required with the exception of a few "stulls" where shearing has been more pronounced. Stopping the usually narrow sulphide ore-shoots is very simple due to the ever-present steep dips of the fracture zones. It is quite possible to make 5 feet a day by contract drifting, using hand steel.

CAMP: At present no camps have been built, but favourable locations were seen at the lower part of the claims, out of danger of rock slides and with water for domestic use present nearby. It would be advisable to build log cabins in this area, due to the fairly heavy snow-fall at that elevation. Good lumber may be bought fairly cheaply at the new sawmill 12 miles distant from Zeballos at McBride Bay. If any work is planned for this winter it would be of prime importance that such a camp be erected immediately. It

might be noted that much of the red cedar present is excellent for splitting into shakes. The "Rey Oro" camp is a fine example of this sturdy type of cabin.

GENERAL GEOLOGY: The area between the headwaters of Kaouk River and the headwaters of Gold Creek is especially favourable because of several factors, namely:

(1) The salient feature which is little recognized-- a narrow area of batholith exposed by erosion, and therefore a greater expanse of roof horizon (i.e., roof rocks into which the batholith was intruded, these being very susceptible to fracturing and mineralization).

(2) Presence of volcanic rocks suitable as host rocks for ore deposits, as are also the marginal facies of the granodiorite.

(3) Presence of known gold values (i.e., a gold horizon of appreciable vertical range extending throughout this 5 mile by 3 mile area).

(4) Presence of many extremely persistent zones of fracturing through all the rock types of this roof horizon (which includes the outer or marginal facies of the batholith-quartz diorite and diorite). Note that most of the rock types included in the volcanic - sedimentary series become more brittle and therefore more suitable as persistently fractured host rocks when within $\frac{1}{4}$ mile of igneous intrusions (such as the diorite). This is the effect of metamorphism and is especially applicable to the Privateer Mine.

(5) Presence of a large zone of faulting which intersects the volcanic and sedimentary rocks of the above area -- probably affording a major channel for mineralization from the deeper igneous mass and preceding its intrusion.

(6) The apparently high ratio of gold in the mineralizing solutions whereby narrow seams of sulphide ore carry extremely rich concentrations of gold.

Note:

This general geology applies to the area as a whole (5 mi. by 3 mi.). Beyond this section the batholith as exposed widens rapidly with a consequent loss of much of the favourable ~~sections~~ roof horizon, and therefore the favourable sections swing more closely along the contacts and lie less in the batholithic rock itself.

LOCAL GEOLOGY:

The L.M. and P.M. Mineral Claims lie in the quartz diorite phase of the batholith...i.e., the cooling margin of the granodiorite in which the mineral solutions probably originated. The strength and persistency of fracturing in this rock is truly remarkable, being noted on the various properties which combined give a total vertical continuity of at least 3000', and a horizontal length of as much as 1 mile in the case of certain definite fracture zones. The presence of white talc or blue gouge is dependent upon shearing which is usually most intense at points along the fracture zones where sharp changes in dip or strike are evident. Thus over much of the fracture

zones the amount of shear gouge or talc is negligible, and stress has resulted in the production of mere "knife-blade" fractures. Sometimes, where various fractures are closely adjacent, the mineralizing solutions have bleached and pyritized the intervening portions of the dioritic wall rock. Such metasomatized rock is typically high in silvery sericite mica, whereas the usual black biotite has been entirely altered giving this slightly fractured rock a bleached vein-like appearance. Furthermore, taken in conjunction with the heavier sulphide - gold seams this bleached quartz diorite makes good mill-feed. For example, the writer picked for test just such a sample from the shear zone crossing Trites' "North Star" property. This material carried 0.47 oz. in gold to the ton.

These fracture zones typically run in sets of three to six in a width covered by a single claim, any one, or all of which, is gold-bearing. Each fracture zone varies in width from a single "knife-blade" fracture to a series of closely spaced parallel fractures covering a width of as much as 20 feet. In those deposits of better commercial value, the writer has noticed that a system of acutely intersecting cross-fractures is present. Where the main fracture begins to pinch and becomes impoverished it seems fairly common for the side fractures to increase in width and mineralization.

FRACTURE ZONES: Such cross-fracturing as that outlined above is evident on the main fracture zone of the L.M. and P.M. Group. This may be seen a few feet above the falls in the water bearing gully that has formed along this line of weakness. On approaching the bottom end of the gully, which terminates in the rather flat foothill slope, the zone is seen to be exceptionally well marked for a width of 15 feet to 20 feet containing several parallel fractures, local lenses of shearing and having precipitous smooth canyon walls. The fracture may be followed easily for a distance of several hundred feet vertically up over the crest of Riny Ridge and down into the valley of the SE fork of Zeballos River. At the crest of the ridge it is defined only as a talus-filled, moss-covered depression. Immediately under the falls there is exposed within the fracture zone a ft. width of intensely sheared diorite. Below this point much of the zone shows only as a group of parallel "knife-blade" fractures with the exception of the lowest exposure. Here more gouge is present containing a little sulphide. No samples were taken here, although similar material, with more sulphide from above the falls carried good gold values. In this section of the zone lying between the lowest exposure and the waterfalls the writer noticed a greenish andesitic dyke following the same line of weakness, and itself locally fractured. Such a structure often forms favourable locales for ore deposition, where sudden changes in dip and strike are present. Above the falls a distance of approxi-

mately 200 feet, the fracture zone shows a decided improvement commercially. Here too, cross-fracturing becomes pronounced and the sulphide present (mainly pyrite with some fine arsenopyrite and a few grains of zincblende) carries a high ratio of gold as is evidenced by a sample taken by the owners. This was not a channel sample, but rather a "grab" chip sample across the width shown and carried 2.64 oz. of gold to the ton (\$95). This result is being quoted only to prove a certain point, namely: that sulphide, where present along this fracture zone, carries a high concentration of gold values. Although the writer spent some time in examining these and surrounding claims no samples were taken personally from the "L.M." or "P.M." Mineral Claims. Further up along this zone (NE) a small acid dyke enters the fractured area. A sample taken from this point by the owners did not carry such impressive gold values. It is to be noted that very little rock is exposed above this point, and that therefore the upper end of the zone has been little prospected.

RECOMMENDATIONS:

To summarize, we have several factors evident:

- (1) Presence of gold in high ratio where sulphides are found.
- (2) Great persistency, horizontally and vertically, of the fracture zone, together with local shearing.
- (3) A good width of fracturing locally showing favourable mineralization and typical alteration of the quartz diorite.

(4) The presence of two favourable mineral deposits not far distant - one to the SE and one to the W. It is to be noted that the former lying on the same slope is best mineralized at approximately the same elevation as the "L.M." and "P.M." showing.

It is the writer's ~~opinion~~ opinion, considering the above factors, that this showing deserves development, first along the lines of surface stripping, mainly above the waterfall in an effort to open up the sulphide present. This would allow an Engineer to determine the lengths of, and sample, any possible shoots of ore. Also spaced open cuts would be of advantage in determining the presence of similar shoots up the hill. At present that portion of the zone below the waterfall does not justify any underground work. If any sizeable shoots are located above the waterfall it would probably be worth while to drift on the zone from the base of the waterfall where the shearing has been so intense.

As for any other preliminary work on the property, there is always the possibility of finding parallel fracture zones. However, very little prospecting would be required to locate these due to the heavy erosion along such lines of weakness.

"W. H. Patmore"

(See next page)

This is to certify that I have known W. H. Patmore, the author of this report for several years; that he is a capable and reliable geologist. He has a Master's degree in geology from U.B.C. and has to his credit also, one year's post graduate work in Geology at Princeton University, Princeton, N.J.

"V. Dolmage"