REPORT

ON THE

NETTIE L MINE.

FERGUSON, B.C.

FOR

THE PORCUPINE GOLDFIELDS DEVELOPMENT & FINANCE CO. LTD.

F. R. WEEKES, MANAGER.

BY

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REPORT OF PRELIMINARY EXAMINATION OF THE NETTIE L MINE FERGUSON, B.C.

INTRODUCTION: Two days were spent on the property with C. O. Woodrow as guide. Maps showing his general conception of the geology were furnished by Mr. Arthur Lakes of Nelson, B.C. It was quickly evident that there was no ore in sight, and that either more depth was required or ore would have to be found laterally. Samples were taken to see if by any possibility the large quartz vein were of sufficient grade to be ore, The Geological study was to determine the method of occurences in the hopes of drawing conclusions which would indicate further ore bodies.

LOCATION: The property is situated on Nettie L. mountain on the East side of the North Fork of Ferguson Creek, and two miles North East from Ferguson, B.C., at an elevation of 5100 feet. It is in the Trout Lake Mining Division.

ACCESSIBILITY: The property is connected with Ferguson by a formerly good road, now slightly out of repair, and the distance is about three miles. From Ferguson, Beaton, which is on the Arrow Lakes, and is served by the Lake Steamers is twelve miles distant over a good road.

PROPERTY: According to the Minister of Mines report of 1910, the Nettie L group, consists of eight claims, and fractions, amounting to 252 acres. These claims are all Crown granted. The principal ones are the Nettie L, and the

Ajax. They are owned by the Ferguson Mines Limited of London, England. The property was brought to our attention by Drs. W.O.Rose and Dr. Morrison both of Nelson,B.C. No price and terms were given.

POWER,WATER & TIMBER ETC. Near the Mine workings there is scarcely sufficient water for domestic use. Power may be had on either the North or south forks of Ferguson Creek,at a distance or two or three miles from the Mine. Timber for Mine purposes,is fairly plentiful,within a mile or less of the Mine.

The Topography is comparatively gentle and rolling for the region,and there are no snowslides.

HISTORY & PRODUCTION: Apparently, there are no production records,which are complete. The supposed production of shipping ore,is four or five thousand tons,which carried something over 100 ounces of silver per ton and fair lead values, A considerable tonnage of low grade ore was milled in a chlorilation plant which was constructed for the joint use of the Nettie L and the Silver Cup mines.

EQUIPMENT: The former camp on the Nettie L. was burned down some years ago. The Mill also burned, and the tramway, which used to connect them is practically wrecked, so that there is now practically no equipment.

DEVELOPMENT: Development on the Nettie L. property has been through two tunnels, and two or more intermediate levels. It totals approximately as follows:-

	Drifts	Crosscuts	Cross-vein	
#I Tunnel	550	I90	I30	
Intermediate	400	I00	?	
#4 Tunnel	930	I040	I20	
	250			
	2I30	I330	250	Total 37I0 ft.

At the present time it is not safe to enter the intermediate levels, between the NO.I and No. 4 tunnels on account of the rotten timber. Of the above footage 690 feet is a Crosscut tunnel, and about 300 feet of the drifting is not on the vein. The Minister of Mines report of I9I4, gives about seven thousand feet, of drifts, crosscuts raises and winzes as the total development footage. This is considerably larger than the maps furnished us show. Whether it includes the Ajax development is not mentioned: Development on the Ajax is as follows:-

	Drifts	Crosscuts	
#ITunnel	40	90	
#2 "	II0	I30	
#3 "	220	200	
#4	o	440	
#5 "	340	520	
	7I0	I380	Total 2070 feet.

GEOLOGY: The Country rocks at both the Nettie L and Ajax consist of the highly metamorphic sedimentaries common in the Lardeau region, which are now classed as graphitic slates, schists and quartzites. There are no ~~graphitic~~ granitic rocks or disbase schists in the immediate vicinity. The strike is generally about North 70° west, and the dip 80° degrees North, but there are considerable local variations, especially at the Ajax.

The first strong fracturing and mineralization took place along the bedding planes, and where crushing was particularly severe veins or zones of stringers of weakly mineralized quartz formed. These so called "Quartz Leads" are often very strong and continuous. Later fracturing occured along a general direction of North 25° West and dipping 80° North east. These fractures cut the formation at about 45° and faulted the Quartz Leads. It is in this series of fractures that the strongest mineralization and the workable ore is found. Coincidently, or slightly later, cross-fractures were formed, striking north, north east, and dipping East, which also have been strongly mineralized, and form the "Cross Leads". At and near the intersections of the different systems of fractures mineralization has been especially strong and the best bodies of ore are developed at or near them. The ore-bearing veins generally occur in the graphitic schist or slate, but occasionally have quartz/ite on one wall.

VEINS: On the Nettie L. proper, there are three recognized veins, The Big Quartz Vein, belongs to the first series of fractures (along the bedding planes), which does not carry ore except where cut by later fractures, but which shows weak mineralization of pyrite galena and sphalerite. It consists of a series of quartz stringers in graphitic schist and slate, the stringers occasionally joining to make considerable bodies of quartz. The Main Lead belongs to the second system of fractures, and has been the main ore producer of the mine. It consists of much more massive lenses of quartz, mixed with replaced slate

and h as a small gouge on both walls. It contains galena, pyrite, sphalerite and grey copper, generally closely associated with graphite. This vein has been largely stoped out over the area developed by the mine workings, and appears to weaked in both directions laterally. The Cross Lead has been stoped considerably; the walls are much more ragged and crooked then those of the Main Lead, and are not accompanied by a gouge. It stops abruptly on on meeting the Main Lead, without sign of faulting, and weakens very decidedly at a distance of One hundred feet or more from the Main Lead. The stopes are generally inaccessible, as are also the intermediate levels, the apparent width of the stopes was five to eight feet on both the Main Lead and the Cross Lead. It is said that the shipping ore occured in small lenses, rather close together, and that a very much larger amount of ore was mined than could be shipped. There are many small mineralized fractures branching off from the Main Lead into the bedding planes, but they, in all cases appear to lose their mineralization, and pinch rapidly at a short distance from the Main Lead.

On the Ajax claim the ore bearing vein is approximately parallel to the Main Lead of the Nettie L in strike, but it dips about 45° South west near the surface, turning back to a steep North East dip at a very shallow depth. It appears to be more of a gash vein type, lying in an extremely broken and contorted strata. Its width varies from 6 inches to 8 ot 10 feet, and the ore stops

immediately above the point where the reverse dip takes place, which is at a depth of about fifty feet. There is a great amount of barren quartz belongint to the type of the Big Quartz vein and following the formation.

SAMPLING: In the No. 4 tunnel cross cut on the Nettie L Claim the quartz from 445 to 505 feet from the portal was sampled in ten feet sections. These samples cover the projected position of the Main Lead in the cross cut. The highest value shown is 1.2 oz Silver, 0.35% lead and 1.3 % zinc.

Two samples taken across quartz and pyrite at the "Y", between the mxim Big Quartz veins and the Main Lead showed insignificant values.

The dumps were sampled as follows:-

					Oz Au.	Oz Ag.	%Pb	%Zn
Nettie L.	#4	Tunnel, part of	West Dump			2.9	.9	.7
" "	"		East "		tr	2.1	.8	.3
" "	#1	"	N.Side "		.04	5.4	1.9	1.1
Ajax	# 2	"	dump about 1500 tons		.12	5.6	7.1	14.1

The above samples were taken by digging small pot holes at intervals over the slope of the dump and taking a shovel ful from each, which was mixed and quartered.

CONCLUSION: No ore is now exposed in any of the workings. There is probably ore under the bottom of the No. 4 tunnel drifts, but it does not seem worth the considerable cost of sinking on it or driving a long tunnel to cut it at greater depth. Favorable places to prospect for new ore bodies are at the inter-

section of the Main Lead, or similar fractures with the formation, or Big Quartz Lead, veins. Several such intersections are indicated on the maps, but they are not cheaply opened in the mines, and are not exposed on the surface.

The cost of a further search for ore does not seem to be justified by the past history of the mine, and the geological conditions.

On the Ajax, there are no indications of further ore anywhere.

To sum up, there is undoubtedly more ore to be found, but it is very doubtful whether the ore that might be found by further development would pay for such work.

Respectfully submitted,

Chas. C. Starr