》於 931/10E 934-22

HUR DUR LOUNTAIN CLAIMS

 $C_{\mathbb{F}}$

II. A. KIN, TETIKWA, J.B.C., 24 July 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997

Dome Mtn 882371

Vom Schroete

ALFRED J. GAUL MINING ENGINEER VANCOUVER, B.C.

REPORT ON DOME MOUNTAIN CLAIMS, TELKWA, B.C.

SEASON 1922.

£.

()

(

. :

This report is for the purpose of describing briefly the results accruing to the work carried out during the Summer months of 1922, on the Dome Mountain Group of claims.

The Group is comprised of the following full claims of approximately 50 acres each:-

"Gem" - "Eagle" and "Hawk" 1	referred	to	in '	this	report	88	the	Gemn
"Porcupine" & "Grizzley"	Ħ	23 . F	R	Ħ	Ħ	11	17	"Cabin"
"Snowdrop" & "Dome"	**	tt t	l I	5T	51	11	11	"Hoops"
"Virginia","Viola","Elizabet	:h" & "Jı	ıliaı	n"	12	Ħ	11	71	"Forks"
"Edith" & "Bertha"	II.		Ħ	11	59	11	7 1	"Chisholm"

The Group is located in the Telkwa Section of the Omineca Mining Division, on the North slope of the Eastern end of the Babine Range - approximately 24 miles from Telkwa Station on the Grand Trunk Pacific Railway.

The ground covered varies in altitude from about 3700 at the North East corner of the Julian (Forks Group) to approximately 5100 at the S.W. corner of the Gem. The camp is located near the centre of the Porcupine claim and has an altitude of approximately 4500'.

The camp is reached by wagon road and trail. The former consists of some 8 miles of well made road with good average grade. From the end of the wagon road, an easy trail follows the base of the mountains a distance of 8 miles to a large lake, continuing along the lake shore and across meadows to a point about 12 miles from the wagon road. The difference in elevation in the s 12 miles of trail being about 700 feet. Thence the trail takes the mountain side to the camp - a distance of about 4 miles with a rise in elevation of about 1000 feet.

An alternate trail runs from the lake to the Western end of the group - which would shorten the distance to the Gem Group about 2 miles. It is not the purpose of this report to enter into details of Geology of Dome Mountain. It will be sufficient to say that generally speaking the formation appears to be Porphyrite in the form of red and greenish andesites. Along well defined zones of shearing the andesite has been highly metamorphosed into schist. It is in these sheared zones that mineralization has taken place, and in which the ore bodies exist. A characteristic feature is the more or less unbroken continuity in the development of this schistosity, together with the mineralized fissures.

A most unfortunate condition, from a prospecting point of view, exists in this locality. The great amount of material eroded by glaciers from the mountain tops, has been deposited on the lower slopes, and to-day there exists on the top of the planed-off rock surface any depth of clay and silt from 1 ft. to 100 ft.

Only in such places as where creeks have cut their beds down through the clay, can bed rock be seen, and it is in these places that the bigger leads have been exposed. Even in creek beds it is usually impractical to get to bed rock on account of the massive boulders which fill the valleys.

Had it not been for this general condition the results accruing to the past season's work would have been far greater, and more helpful information obtained as to strike of veins and length of pay shoots. Offsetting the disadvantage on account of silt, the abnormally dry summer of 1922 enabled work to be carried on in places that would, at normal times, be under water.

Mineralization:

()

(

ł

(A) <u>Gem Group</u>. (1) "Gem". Two well defined veins have been exposed on this claim, one of which has been opened up by surface cuts for a greater part of the claim length. The vein has a generally regular strike of N 70°W, with a dip which varies from 45° to 75° to the S.W. The width varies from 1 to 3 feet and is well mineralized - carrying pyrite, chalcopyrite, arsenopyrite, galena and zinc blende. Samples taken and assayed show that this vein carries high gold value.

About 500 feet from No. 1 Post there appears to be an offshoot bearing characteristics similar to the main lead. There is very little overburden on this claim, which is located just above timber line.

Samples taken gave following results:-

		· ·	Silver	GOID
No.	Width	<u>Character & Location</u>	OZ.	02.
1	24 "	Average quartz - with pyrite,		
		galena & blende, 500' from		
		No. 1 Post	5.56	2.56
2	-	Lean quartz.500' from No. 1		
		Post	.20	.12
3	6"	Offshoot - 100' east of Sample		
		arsenopyrite, galena & blende	20.14	8.48
4	24 "	100 lbs. sample. 500' from		
		No. 1 Post	6.80	3.40
5	12"	Bottom of Test pit on Offshoot	1.00	•40
6	-	Arsenopyrite	9.26	1.70

The second vein on this claim parallels No. 1 about 200'east. It has not been prospected to any extent.

(

l

The two veins on this claim should be prospected at as great a depth as is possible to obtain. A tunnel started in the south bank of the creek near the No. 1 Post, driven on No. 1 Vein would give approximately 1 foot of depth for every four feet of tunnel, cross-cuts should be run each side to the limit of the sheared zone and thus prospect the probable parallel leads.

There is every prospect of one of shipping grade being found in sufficient quantities to cover a greater part of the cost of this work.

(ii) "Eagle" claim. No work of importance has been done on this claim. A sample taken over a width of 8" in test pit near No. 2 Post gave: Silver, 70 oz.; Gold, 1.12 oz.; Quartz leached and decomposed. Eagle claim adjoins N.E. side of Gem and will probably contain extension of Hawk lead. The claim is on the edge of Timber.

(iii) "Hawk" claim adjoins South East side of Eagle. The Hawk lead has been prospected in a long open cut and appears to carry the characteristic strike and dip of all the leads in this section of the property, viz: S.70 E. dipping to North East.

Selected ore gave: Silver, 10 oz.; Gold, 1.3 oz.; general sample over width 4'0" gave silver 4.5 oz; gold .04 oz.

(B) <u>Cabin Group</u>. This group is located in timber about half a mile from the East corner of Hawk claim and consist of (i) Porcupine and (ii) Grizzley claims.

The Cabin Vein is exposed at the No. 1 posts of the two claims which are in the bed of a small creek that has cut the silt and clay to bed rock, a short distance from the comp. Twelve to fifteen feet of overburden cover the ground in this locality, making exploration work slow and costly. Nevertheless prospecting from the creek has exposed the vein about 100 feet along the strike and width and surface cuts east of creek on Grizzley claim have extended the length to 300 feet.

The vein carries a strike of about N.45 E. and has a dip to the S.E. of from 50° to 60°. It has a width of 8' to 10', has well defined walls of shistose andesite. It is well mineralized with pyrite, chalcopyrite, arsenopyrite and galena. The small amount of depth that it has been possible to obtain has shown a great improvement in definition and mineral content, the last work done producing ore very similar in character to that obtained in the "Forks" lead.

General sampling at the surface has not been productive of any striking results, but selected samples show that rich streaks do exist in the vein and the indications are that with depth, the values will be more regular and in addition to gold and silver, a commercial value in lead will be obtained.

No.	Width.	Character & Location.	ounces.	ounces.
1	10'0"	General width surface quartz.	1.60	.08
2	5'0"	General Average East Cut	10.00	.tr.
3	5'0"	General Average West Cut	4.84	.31
4	3'0"	East Cut. 3'0" below surface	6.32	.12
5	-	Selected Sulphide ore West Cut	4.36	1.06
6	8'0"	General Quartz 7'0" down. West Cut	1.64	.12
7	4'0"	West Cut	4.00	.12
8	-	Heavy Sulphide ore in open cut, 70' east of East Cut	5 oz.	1.28

Silvor

COLA

Samples gave the following results:-

(

()

Development of the Cabin lead must of necessity entail shaft sinking.

(C) Hoops Group. This group lies to S.W. of Cabin group and is comprised of the Dome and Snowdrop claims. The No. 1 posts are located about timber line - the Dome claim being in and the Snowdrop above timber.

(i) Dome Claim. While very little work has been done on this claim, there is a strong possibility of the Cabin lead extending into the Dome, as will the Snowdrop leads on their N. Eastern extension, as is proved by the exposing of Hoops lead on trail to Jane

(ii) Snowdrop Claim. This claim has more bed rock

exposed than any other claim in the Dome Mountain Group, which condition has led to the uncovering of two distinct leads known as the Hoops and the Jane lead. The Hoops lead occurs about the middle of the claim and has a strike generally N.E. and S.W., with a dip to the North West of approximately 60°. It has been exposed by means of surface trenching for a distance of about 300 feet and shows well defined schistose walls, with average width 3'0". North West of the main lead occurs a mass of ledge matter lying very flat. Further work must be done on this body to prove whether it is a breaking down of the main body or an independent ledge. A characteristic feature of the in this sheared zone is that the galena which vein filling occurs in other places on the mountain appears to have been replaced by chalcopyrite. This feature is best seen in the Jane lead. Samples taken on Hoops lead are as follows:-

No.	Width.	Character & Location.	Silver ounces	Gold ounces.
1 2 3 4	3101 3101 3101 2161	Main lead surface (Hoops) " " 4' below " " " 20' East of #2 samp- Open cut, (Probably main le lead) Dome claim 600 ft.	5.12 17.2 5.00	.28 1.40 1.28
		east of #1,2 & 3.	7.00	.16

Jane Lead. This vein has been opened up by surface cutting and is exposed more or less continuously from the S.E. corner of the Snowdrop, diagonally West across the claim towards the most easterly dome. This vein outcrops for a distance of 5000 feet. The general strike of this lead is East & West, with a dip of 50° to North. The vein has well developed schistose andesite walls and appears to be of a lenticular nature, a rich shoot seems to occur 20 feet of the big open cut near the S.E. corner of the Snowdrop claim.

Samples taken gave the following assay results:

No.	Width.	Character & Location	Silver ounces.	Dold Copper OUNCOS. percent
1	-	Selected ore 50° from d	iscovery .90	10.34
2	-	Oxidized ore " "	" 3.44	1.32
3	-	Pyrite & chalcopyrite	" 4.98	0.62
4	-	Pyrite	ⁿ 8.12	3.08
5	2'0"	Test sample 100 lbs.	" 10.46	4.34 4.6

The intersection of the Jane & Hoops (main) lead should be prospected as this may prove to be a point of enrichment. Some exceptionally high assays have been obtained from the Jane Tein which justifies considerable prospecting to define the pay shoot.

{

ł

(D) Chisholm Group: Comprising the two claims, Bertha and Edith, located ½ a mile south east of the Camp. At the No. 1 posts (on the main trail) a shaft was sunk 30 feet, from which was shipped some 15 tons of picked ore, said to have returned \$50 per ton. The shaft contains water and no work was done during 1922. The ore on the dump is similar in character to the "Jane" ore, inas much as chalcopyrite is present in appreciable quantities and thus differs from the Hoops'and Forks' Leads which carry galena. In the vicinity of the Chisholm shaft occurs a wide zone of mineralization, à number of stringers of mineralized quartz existing which may be subsidiary to a major body of ore at present undiscovered, - The Edith and Bertha claims are in the timber, which adds materially to the difficulties of prospecting. The "Jane" vein undoubtedly extends across the claims and in all probability the ore in the Chisholm shaft will be found to closely associated with the Jane vein. Surface stripping has exposed a lead on the Bertha near the S.W. side which will ultimately prove to be the Jane.

(E) Forks Group: which is comprised of Virginis, Viola, Elizabeth and Julian Claims is located about $\frac{3}{4}$ mile east of the Camp. The elevation at the No. 2 posts, which are in the centre of the group, is approximately 4000'. The ground rising to the S. West and falling towards the N.East. The glacial drift on these claims reached a depth of 75 to 100 feet in the vicinity of a creek which runs more or less through the centre of the group.

{

l

At the No. 2 Posts the Forks lead has been exposed by the creek erosion to bed rock, but owing to the exceptionally heavy overburden, prospecting has been slow and comparatively unproductive of results considering the immense amount of work done at this point. Nevertheless, an ore body of great potential value has been uncovered for a length of 100 feet and an assured width of 30 ft., which may possibly be further increased inwidth to 70 feet. This ore body lies at the bottom of the creek bed and at this point is covered with drift and massive boulders, which make stripping an impractical if not impossible operation. Above the creek level the vein is very much decomposed and leached out.

The Forks vein is in a well-defined sheared zone of schistose andesite. It has an approximate strike of N.30E and a dip to the 3.W. of about 55°. It has a quartz gangue, heavily mineralized with galena, arsenopyrite, pyrite, zinc Blende.

The decomposed ledge matter lying on top of the vein gives phenomenal tails of gold in the pan. In places the galena and arsenopyrite are massive and yield high assay values. The tunnel driven in the right bank of creek, 200 North East of No.2 Post undoubtedly passed over the top of the ledge at a point about 50' in from the portalwhere much float was encountered in the glacial drift. The ledge was exposed in the floor of the short tunnel run in at the point of junction of two creeks near the No. 2 Post, 100 feet S.W. of the main open cut. A mass of ore was exposed in a cut in the creek bottom, 70 ft. H.W. of Hanging wall in open cut which was of a very high grade nature, but being at water level further work was not practicable, underground work must prove if this is (a) in place on the foot wall side of the vein, (b) an offshoot of the vein or (c) merely a mass of ore broken away from the original vein.

The Forks group is well timbered and watered and present a very favorable opportunity for the establishment of a permanent camp, for it is at this point that work must be concentrated. The vein can only be explored by means of a shaft sunk at the forks, the most favorable location for a shaft being in the main open cut. Substantial crib work would be necessary around the shaft to keep the creek out. This presents no difficulty. A small **driven** pump would handle any water coming into the shaft. The present showing on the Forks vein is such that a large expenditure would be justified in proving the extent of the ore body.

Development along the Forks lead Southwesterly will present an opportunity of crosscutting to the North West to intersect the Hoops and Cabin leads and thus develop these veins and give an outlet for one so developed which can be treated in the Forks plant, at whatever point the latter may be located. Sampling on the Forks lead has been productive of a number of high assays sufficient to prove the existence of a shoot of high grade ore; following is a record of samples taken:-

No.	Width	Character & Location.	Silver ounces	Gold ounces.
1	-	Black sulphide streak in		
		decomposed ledge	15.64	31.56
2	-	Oxide & carbonate streaks	6.42	12.64
3	-	Average mineralized quartz		
		over 25' width. N.side open cut	£. 84	5.40 -
4	-	Old dump 150' S.W. open cut	2.28	0.50
5	-	Schist at Forks	16.00	0.12
6	-	Float in glacial drift at Forks	5.66	1.27
7	24 ⁿ	Creek bed at Forks	1.70	0.64
8	-	Sulphide pre - Forks, N.side		
		open eut	7.60	5.62
9	12"	Clean unoxidized ore - Forks. Hanging wall side - N.side		
	•	open cut.	10.75	10.12
10	-	Hand picked galena ore- foot		
		wall side in Creek bed	30.62	3.50
11	-	Sulphides and arsenides - F.W. side in Creek bed	12.10	3.07
12	36"	General vein matter (unoxidized) F.W. side in Creex bed	10.55	3.38
				I

€

E

No.	Width.	Character & Location	Silver	Gold	Lead
	· • · · · · · · · · · · · · · · · · · ·		ounces	ounces	3 percent
13	24 "	Lean quartz, H.W. side - Forks	1 70	0 50	
74	001	N. SIUG ODEN CUL Smlabido omo U W N mido onom	1.00	0.09	
14	56	cut	1.88	1.02	
15	48"	General solid quartz, galena &			
		pyrite - Forks. S. side open cu	t 2.00	0.99	- ·
16	-	Zinc blende sample	3.00	0.25	
17	72"	Lean band of quartz. 10' S.W.			
		of No. 12	1.55	0.41	
18		Samble of 16 bage for mill test		•	
		taken from ore dump	9.20	4.44	1-20
19	-	Sample of 2 bags galena ore mill			
	1	test	18.80	2.54	14.30
20		Galena ore bottom #2 drift Forks	4.50	1.40	
้อา	36"	Vein matter 100 ¹ S.W. of main			
~ 7		cut - Forks	1.60	4.02	
	1		1 1		

Summarizing the Bome Mountain Claims - the most important is the Forks Group which will be the centre of operations, with subsidiary operations on the Cabin and Hoop leads. The Gem Group will produce probably some ore of a shipping grade but unless a mill is erected on the Heslip Group any ore of a concentrating nature would have to be transported to the Forks, distance of two miles.

€

€

Recommendations: Future development of the Dome Mountain claims will of necessity be of an underground nature. In view of this fact, it is of vital importance that work be commenced as early as possible. The dry season of 1922 will present a favourable opportunity of getting this work underway with a minimum of water to be encountered, as the ground is drained practically dry. I therefore strongly recommend that with the least possible delay a sleigh road be constructed from the end of the present wagon road to the Forks and that sinking plant needed, such as small hoist pump, pipes and other necessary equipment be taken in at once. A crib could be built for the shaft and the latter started at once.

A first-class wagon road should be built to the claims; the cost to the Company for the fourteen miles would be about \$30,000 to which would be added a government grant of \$500 per mile. This road could be cut during the winter months and graded after the snow leaves.

Timber needed for the shaft can be got out during the winter with less labour than in the summer. Camp buildings can also be put up at this time of the year. The summer season being so short, the necessary preliminary work is hardly com-

-8-

pleted, when the first bad weather appears and immediately the efficiency is reduced. With continued work this is not so pronounced. As mentioned above, a shaft must be sunk at the Forks. When this reaches a depth of fifty feet cross-cuts should be run to prove the width of ore body, also at 100' foot level the same thing should be done.

On the 100 foot level the vein should be drifted on in both directions. It is possible that sufficient ore of shipping grade can be extracted and shipped to smelter, the proceeds would help to defray cost of sinking.

Work should also be started on a shaft to test the Cabin lead. This shaft should be located on Grizzley about 200 feet north east of the point where vein is cut by creek. The shaft should be sunk 100 feet and a drift run out each way on the lead.

<u>Diamond Drill</u>: While diamond drilling is not to be recommended for the purpose of proving the value of a gold lead, the Dome Monntain leads, particularly the "Forks" and "Cabin" leads present an opportunity where the diamond drill can be used to advantage in locating the leads along their strike, and thus eliminate a great amount of trenching in deep overburden. Veins can always be opened up when they have been located, and their value proved. Short holes needed for this purpose can be put down quickly and a large amount of territory covered in a short time.

I might add that the claims have been surveyed to the extent of the location lines and connections to adjoining claims, thus securing full claims and the elimination of fractions.

In conclusion - I would say that Dome Yountain presents a possibility of the development of a very large mine, the extent of which it would be unwise to predict. The work carried out in 1922 has produced sufficient data to work on for the intelligent exploration of ore bodies so far discovered, but I feel I must emphasize one point, viz.- that unless work is continued throughout the year very little will be accomplished; the summer is altogether too short to make any progress from year to year.

October 20th 1922

l

C

alped Saul