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REPORT ON GEOLOGICAL EXAMINATIONS  
of the  
MT. THORNHILL & MAROON MTN. SHOWINGS  
TERRACE AREA, B.C.

Preliminary

The general examination was carried out in accordance with verbal directives and authorization received from Mr. Giggey during early July, 1972. It was specifically requested that, in his subsequent report, the writer give his factually-based opinions on the ore potential of each mineral occurrence examined and, if there is an ore potential, a preliminary estimate of what profits might accrue from a mining operation.

The writer examined the Bluenose, Maroon Mtn., and upper Mt. Thornhill showings on August 6, 8, and 9, 1972, respectively. Mr. R. H. Bates of Terrace provided background data, ground transportation, field guidance and assistance, and arranged the necessary helicopter transport - all of which are hereby gratefully acknowledged.

From Terrace, the Bluenose tunnels were reached by approximately 6 miles of road and 1/2 mile of trail. Transportation to the Maroon Mtn. and upper Mt. Thornhill showings was by helicopter from the Terrace airport.

Showings on the A-B claims of the ABEL group were not examined, due to the fact that their location within the middle-elevation range of Mt. Thornhill could have entailed an additional one to two field-days with auxiliary helicopter transport (expense).

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## 1. BLUENOSE SHOWINGS

### General

The Bluenose claim locates about 5 miles ESE of Terrace, on the heavily timbered lower westerly slope of Mt. Thornhill. The principal showings, occurring within the two lower adits and contiguous open cuts and trenches, situate between elevs. 1080 and 1200 feet.

### Field Examination

Local trails were brushed out, and Brunton-tape surveys were run northward and northeasterly on the surface through the tunnel portals and trenches, and underground within the main lower adit and the accessible portal section of the next higher adit. Topographic and geologic details were plotted on a scale of 1 inch = 40 feet. Five samples were taken across the best mineralized section of the quartz vein exposed within the inner half of the main adit.

### Local Geology

The host structure for mineralization is a strong shear zone in massive to gneissic granodiorite; shearing strikes northeasterly and dips about 70 degrees southeastward. Fine-grained black to gray diorite dykes, carrying more or less magnetite, parallel both walls of the shear.

The gold-silver-copper values occur with pyrite and chalcopyrite in a discontinuous quartz vein within the generally wider shear zone. Wider parts of the quartz vein comprise lenticular bodies of very limited strike and dip extent. Within the showings examined the quartz vein ranges from 2 inches to 12 inches and, locally (within the main adit), to 12 feet wide.

The productive part of the vein, which had a reported grade of about 1.5 oz./ton in both gold and silver, has been completely mined out. This derived from the area of the present partly caved drift and open cut situate above and northeast of the currently-accessible lower adit.

### Sampling

This was restricted to the lower adit, which contains the only significant occurrence of mineralized quartz; assays are as follows:

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<u>Sample #</u>	<u>Location</u>	<u>True Width</u>	<u>Au, oz/ton</u>	<u>Ag, oz/ton</u>	<u>Cu, %</u>
40312	portal + 75'	1.5'	0.10	0.05	0.02
40313	portal + 84'	1.7'	0.09	0.04	0.04
40314	portal + 88'	1.0'	0.01	0.02	0.02
40315	portal + 94'	0.7'	0.09	0.18	0.11
40316	portal + 111' (face)	0.7'	0.08	0.08	0.03

### Conclusions

The vein interval sampled is definitely sub-marginal as regards both width and grade. Also, the potential for the occurrence of economically mineable bodies of ore, which would have to be very much larger than that previously mined, is very slight. Although the quartz vein exposed within the inner half of the lower adit is locally 12 feet wide, it carries no significant amounts of previous or base metal mineralization. Narrower sections, although appreciably mineralized with pyrite and subordinate chalcopyrite, are similarly devoid of commercial values.

No drilling or tenching targets are apparent within the range of the showings - including their local strike and dip extensions.

## 2. MAROON MTN. SHOWINGS

### General

Government reports and topographic-claim maps indicate that the principal showings occur within the Bear M.C. - this claim situating on the west slope of Maroon Mtn., about 5 miles due east of Kitsumgallum Lake.

The showings mapped comprise the accessible part of the short "upper adit" and stope, a series of natural and trenched vein exposures along the 750-foot N.E. extension of the vein, and the 35-foot adit at the northeasterly end of the writer's survey. The vein, mineralization, wall rocks, and associated faults are generally well exposed along the axis of the northeasterly trending ridge and nose in which they occur.

### Field Examination

From station 0 over the upper adit a compass-tape survey, with stations at approximately 100-foot intervals was run on the general

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strike of the vein system. From this, details of the workings, local geology, and mineralization were mapped on a scale of 1" = 40'. Following this, seven chip-channel samples were taken on selected representative vein exposures. The main, or lower adit was tightly caved at the surface so could not be examined.

### Local Geology

Host rocks for the local gold-silver mineralization comprise thin and thickly bedded argillites, sandy argillites, shales, and conglomerates of the regional Bowser Group. The mineralization occurs within a locally drag-folded and contorted horizon within the generally undeformed larger panel of sedimentary rocks. Quartz, as single or multiple veins, fills tension openings within the drag folds. As would be expected, quartz tends to occur in lenticular masses of limited strike and dip extent; widths range generally from 2" to 2' and, very locally, to 4'.

Pyrite, with relatively minor amounts of Zn, Cu, and Pb sulphides fills fractures in the quartz. Gold and silver values appear to be proportional to the gross content of base-metal sulphides present and may be considered as only 'low' to 'fair', in view of the narrow vein widths.

### Sampling

<u>Sample #</u>	<u>Location</u>	<u>True Width</u>	<u>Au, oz/ton</u>	<u>Ag, oz/ton</u>
40317	Sta. 0 + 1' N.	1.0'	0.58	1.30
40318	Sta. 0 + 16' N.	1.0'	0.27	0.61
40319	Sta. 0 + 27' N.	0.8'	0.25	0.08
40320	Sta. 1 + 8' N.	0.2'	0.22	0.02
40321	Sta. 2 + 4' N.	0.5'	0.47	0.68
40322	Sta. 3 + 1' N.	2.0'	0.24	0.37
40323	Sta. 4 - 6' S.	2.0'	0.47	1.10

### Conclusions

Gold and silver values within the sampled exposures are insufficient to constitute ore-grade material over the usual minimum mining widths of 3 to 4 feet - particularly so, in view of the high access and transportation costs that would result from the high and difficultly accessible location of the deposit. In addition, the possibility that commercially significant tonnages of the better mineralization might exist is extremely slight, in view of the local nature of the structural controls.

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### 3. MT. THORNHILL SHOWINGS

#### General

The relative position of the showings within the general claim group, as well as information contained in government reports, indicate that the showings examined situate within the Monti 1 and 2 claims. The various trenches and short adits on the vein lie on a line across the upper west slope and saddle of Mt. Thornhill, and between 1-1½ miles south of the main summit of the mountain.

#### Field Examination

From the helicopter drop-off point on the saddle a general geological reconnaissance was run in a westerly-downslope direction, and the starting point for the detailed compass-tape geological traverse established at the lowest trench of the series, at elev. 4325'. This traverse was run up-slope in a general E.S.E. direction to the saddle and for a short distance down the east slope. All workings and geology on, and adjacent to the 2200-foot traverse were tied in and mapped at a scale of 1" = 100'. In view of the general sparsely mineralized character of the quartz vein opened by the succession of trenches and adits, only one sample was taken. This, a cross-sectional chip sample, was from the principal adit - situated above and closely north of the saddle (el. 4500').

#### Local Geology

A flatly north-dipping, WNW striking quartz vein within slightly chloritized to strongly silicified granodiorite contains trace to scant amounts of pyrite, sphalerite, galena, and chalcopyrite. There was no evidence of the reported tungsten mineralization, although its apparent absence could not be confirmed unless all showings were tested in the dark under ultra-violet light ("mineralite").

The quartz vein is usually from 1" to 24" wide and locally up to 3.5' wide (sample) - pinching and swelling between these limits over relatively short strike (and probable dip) intervals. Over the greater part of its length the vein is essentially barren.

#### Sampling

No. 40324, in X-C @ Sta. 15 = 3.5' @ Au, 0.07 oz./ton;  
Ag, 0.09 oz./ton.

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Conclusions

All of the mineralization seen is definitely much too low grade to constitute ore. Also, the general barren character of the vein suggests that there is almost no possibility that better mineralization occurs on its strike or dip extensions.

Summary

On the basis of descriptions contained in government reports, a preliminary examination of the Mt. Thornhill A and B claim showings might be warranted, if any of the old adits are still accessible. Such an examination could be restricted to sampling the wider and better mineralized exposures.

Mr. Bates could very satisfactorily carry out this specific assignment.

Respectfully submitted,

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W. M. Sharp, P. Eng.

Encl.: Assay Rept. No. A22-472.