

SAMPSON ENGINEERING INC.

2696 West Eleventh Avenue
Vancouver, British Columbia, Canada
V6K 2L6

FAX: (604) 734-7837
TEL: (604) 736-7284

16 October 1990

Mr. Arthur Dolphin

Dear Arthur:

Summary Report: Webb & We Claims near Mount Milligan,
Central British Columbia

During the period 8-11 October 1990, I visited the Webb & We claims. I examined core from the two holes that have been successfully drilled in bedrock on the Webb claims, airborne magnetic results on both properties, and also the limited outcrop on the We claim group. My overall assessment of the two properties is as follows:

1. Webb Claims

The claim group consists of rolling, forested country with extensive overburden cover. There is one minor area of andesitic pyroclastic outcrop, but otherwise the lack of outcrop gives no clues as to the geology of the bedrock.

The airborne map shows an extensive mag high on the western side of the claim group, from which various discrete, strongly magnetic lobes extend. These probably represent intermediate intrusives coming off a larger acidic body. This particular part of the property was therefore covered with detailed IP surveys earlier in the season. I examined the profiles produced by these surveys. They show areas of strong chargeability and low resistivity, which are probably related to mineralization, associated with the intrusive bodies. I also examined soil geochemical maps which show areas of copper and gold anomalies in soils.

In order to explore the IP anomalies and geochem soil anomalies, a programme of diamond drilling was started some weeks ago. Due to problems with overburden (such as extremely strong ground water flows), the first three holes failed to reach bedrock. Holes 90-4 & 90-5 indicated depths to bedrock surface of 350-400+ feet. Both holes have however successfully cored the bedrock.

Hole 90-4 intersected a series of green to dark-green andesitic tuffs which have been fractured, altered and mineralized. Alteration consists principally of chlorite and epidote, i.e. propylitic alteration is dominant. Some sections of K-feldspar alteration and some minor argillic alteration are also present. Mineralization is mostly pyrite with lesser amounts of chalcopyrite and occurs both in 1-5 mm. width fractures and as disseminated blebs of 1-3 mm. diameter. Some short sections of feldspar-porphyry dykes (3-20 ft. down the hole length) are also present. The dykes are fresh, unaltered and generally unmineralized except in the lower part of the hole where minor fracture filling mineralization of a similar type to that seen in the andesite country rock is encountered.

Hole 90-5, which was drilled 95 m. to the east, encountered similar mineralization in the upper part of the hole, i.e. propylitically altered andesitic tuffs containing fracture filling and disseminated pyrite and chalcopyrite mineralization. At approximately 520 ft. depth it intersected a feldspar-porphyry dykes similar to the minor dykes which were encountered in the first hole, but unfortunately this one occupied a down-the-hole length of 460 feet. Eventually below 980 foot depth, the hole passed out of the intrusive into altered andesite country rocks, which in this locality show more extensive K-feldspar alteration, and considerably more fracture filling and disseminated chalcopyrite than was seen in hole 90-4, or in the upper parts of the hole 90-5.

CONCLUSIONS AND RECOMMENDATIONS ON THE WEBB PROPERTY

1. The two holes drilled todate have intersected a porphyry-copper system. The lack of outcrop and the fact that only two holes so far have explored bedrock means that we know very little of the geology of the property. We are not even certain, for example, that the magnetic lobes coming off the main magnetic mass represent intrusive bodies, since we have not as yet put a drill hole into any of these features. The alteration present, the types of host rock and the types of mineralization indicate, however, that we are definitely in a porphyry-copper system, but probably only on the edge of the copper bearing part of the system, i.e. we are in a distal location.
2. The rock sequence and alteration in these holes bear strong similarities to those which host the MBX and West Breccia ore bodies at Mount Milligan. The MBX porphyry-gold deposit is situated on the eastern side of a 3000 ft. diameter porphyritic monzonite stock. (Our drilling todate on the Webb ground has not encountered a major intrusive of this type.) Mineralization is hosted by easterly dipping pyroxene porphyritic andesite to Latite flows and pyroclastics interbedded with trachytic tuffs, and a 30-150 ft. thick porphyritic monzonite dyke.

K-feldspar and propylitic alteration assemblages have formed outwardly from the stock for 1000 and 8000 ft. respectively. An early fine grained hydrothermal biotite superimposed on the volcanics is overprinted by pervasive gray potassium feldspar. The potassium silicates overprint the enclosing propylitic assemblage which is principally comprised of epidote carbonate and pyrite. Throughout the MBX deposit alteration is typically pervasive and veining is infrequent. Disseminated grains and coalescing grain aggregates of chalcopyrite and pyrite comprise approximately 60% of the total sulphide content. Fracture controlled pyrite, chalcopyrite mixed veinlets are less abundant. Chalcopyrite and pyrite bearing K-feldspar carbonate veins are relatively rare. The distribution of the sulphide is zoned but not uniformly. Metal zoning closely parallels that of the sulphides. With gold concentrations increasing with the

pyrite:chalcopyrite ratio, this relative gold enrichment coincides with the transition from K-feldspar to propylitic alteration assemblage. Both chalcopyrite and pyrite are auriferous and occur as separate grains. Intergrown sulphides are rare, which is of course an important metallurgical feature.

Apart from the main deposits (the MBX and West Breccia zone), other deposits are present, notably the Creek, Esker and 79 zones. These are located within propylitized hornblende pyroxene-porphyrific andesites, approximately 1000 feet southwest and 1500 foot west respectively of the MBX porphyry deposit. These zones are northeast striking, steeply northwest dipping tabular bodies of auriferous semi-massive to massive sulphides, occupying fracture systems radial to the monzonite stock. Each of the deposits comprises 3-5 sub-parallel sulphide rich bodies, spaced across 200-300 feet. Individual structures range from 1-10 feet in thickness and grade from 0.10 to 2.89 oz/ton gold, and 0.2 to 10% copper. The propylitically altered andesites between the individual sulphide bodies carry 30-300 ppb gold and 200-2500 ppm copper.

3. Comparison of mineralization in the two holes drilled to date indicates that as is normal in porphyry systems, metal zonation is present in the system on the Webb property. We thus need to establish the overall distribution of the rock types, i.e. we should establish whether the magnetic lobes represent intrusions. The distribution of propylitic and K-feldspar alteration is also of significance since at the MBX deposit the main area of gold mineralization occurs where the propylitic and K-feldspar alteration haloes coincide. The deposit is situated on the edge of the main IP response (as indicated by postulated metal content or sulphide factor). The main deposit occurs in fact in areas of medium to low IP effect.
4. Copper-gold soil anomalies are extensive at Mount Milligan and occupy an area approximately 3 kms. diameter. This is not unusual in the B.C. central interior plateau, where combination of flat lying topography and extensive continental glaciation have resulted in soil anomalies derived from

mineralized boulders which are distributed over an extensive area. Such extensive transported soil geochem anomalies provide little help in locating drill targets.

5. Due to the generally steep standing nature of the fracture filling mineralization in most porphyry systems, evaluation of the deposit is usually by inclined holes. This has been the practice followed by Continental Gold Corp. in their evaluation of the Mount Milligan deposit during the past three years.

Overburden at Milligan appears to be considerably shallower than that at Webb and since we are currently exploring Webb to locate mineralization rather than attempting to evaluate tonnage and grade of an ore body it would be better to drill vertical hole in order to minimize problems with overburden.

6. Drilling by means of a helicopter supported Longyear 38 machine is expensive. A road is currently being constructed to the site. This will cut costs and permit future drilling by a larger machine such as a Longyear 44 using heavier pump equipment, etc. The use of the 44 would, for example, permit a hole to be started with H-Q casing. If water problems, etc. were encountered, the hole could then be reduced to NQ and subsequently to BQ size.

We Claims

The We claim group shows similar airborne magnetic features to those found on the adjoining Webb claim group. A similar mag high occurs on the northeastern side of the claim group of similar strength to that seen on the Webb group and probably represents an intrusive complex. Three discrete lobes trend off this magnetic high to the southeast and probably represent discrete intrusives, hopefully, of intermediate composition. The property has been covered with a well cut line grid, using a baseline trending at 060 with 200 metre spaced cut crosslines and flagged lines between the cut lines, i.e.

geochemical soil sampling on 100 metre spaced lines, IP coverage at 200 metres spacing. At present most of the grid has been completed. The soil sampling is approximately 3/4 completed, but the progress on the IP has been slow and at the time of my visit only one line had been surveyed.

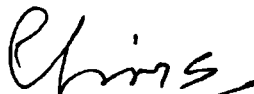
Outcrop on the property is limited to the one major creek which runs from southwest to northeast across the claim group. Some further outcrop was examined immediately west of the western boundary of the claim group, and to the northwest on ground that is held by Noranda. Outcrops examined in the northerly part of the creek consist of conglomerates containing pebble to boulder size fragments of volcanic derived material in an argillitic matrix. A little further south outcrops are andesitic tuff. All remaining outcrops further to the southwest and west and northwest of the property consist of massive feldspar porphyritic andesite or diorite. It is not certain whether this rock type is intrusive or extrusive. It shows no fracturing, schistosity or obvious alteration and appears very similar to the plagioclase porphyritic dykes seen in the two holes drilled on the Webb property.

The We claims occur on generally higher ground than the Webb and they contain several ridges and generally more outcrop than seen on the Webb claims. It seems likely that overburden is probably shallower, at least on the western half of the We claims than on the Webb. Thus geochemical soil sampling should be more effective than at Webb. The northeastern part of the We would probably contain overburden of similar depths to those encountered on the Webb. Depth of overburden will be estimated from the IP surveys.

Apart from the limited amount of outcrop which probably gives no reliable indication of the bedrock geology of the We claims, we know nothing of the distribution of rock types, alteration or mineralization on this property at present. All further exploration of the property will be by drilling. This will be greatly aided by the access road currently being constructed.

The similarity of magnetic features and rock types seen at We indicates that a prophyry copper system similar to that intersected at Webb could be present.

Yours sincerely,



Chris J. Sampson, P.Eng.
Consulting Geologist

CJS/np

Copy: Dr. N. Carter
Mr. G. Nicholson