REMIER



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WARY GEOLOGY

Silbak Premier is underlain by the Early Jurassic Hazelton Group. Green initiation and esitic volcanic rocks are intruded by coeval sub-volcanic porphyritic indesite intrusions. Porphyry is complexly distributed and constitute irregular likes and crude sills. Mineralized zones are both concordant and discordant with inst andesite and show a spatial association with structurally controlled porphyry intrusions. Mineralization consists of silica <u>+</u> K-feldspar <u>+</u> sulphide vein and irrectia zones, peripheral stockwork veining and locally crustiform banded veins. Mineralized breccia zones occur at andesite/porphyry contacts but also transgress the hanging wall of the porphyry into andesite. Pervasive sericite forms a halo <u>is siliceous low sulphide zones</u>, but is less extensive about semi-massive sulphide iones, and is flanked by feldspar destructive carbonate alteration. associated with previous mining activity. However some of the anomalies appear valid and definitely warrant follow-up work.

DRILLING

1. Introduction

Diamond drill testing of induced polarization anomalies, soil and rock geochemical anomalies, and favorable altered and mineralized geology was undertaken in the Simcoe area along line 1550N. Two holes totalling 558.99 m were completed. Hole P86.CH.01 was drilled to 233.77 m, while hole P86.CH.02 was drilled to 325.22 m. See Figure 6 for cross-section and Appendix 1 for drill logs and analytical values. Refer to "Geology" section of this report for discussion of results.

E. GEOLOGY

1. General Geology and Structure

Simcoe area geology is considered part of the <u>Early Jurassic</u> Hazelton Group. Along the 1550N drill section from 2500N to 2800N the geology consists of a 325 m thick sequence of moderately to thickly interbedded andesite tuff-lapilli, tuff-agglomerate, andesite flows, and plagioclase-hornblende-potash feldspar porphyritic andesite (Premier Porphyry). The stratigraphy, including the porphyritic andesites, appears to trend northeast (060°) and dip steeply east (75°).

The porphyritic andesite appears to occur mainly as <u>coeval</u> <u>sub-volcanic intrusives</u>, and <u>occasionally as flows</u>. The amount of proportion of phenocrysts in the porphyritic andesites varies considerably. For example, plagioclase (P) feldspar phenocryst concentration ranges from <5-35%, hornblende phenocryst concentration ranges from <1%-15%, and K-feldspar megacrysts range from <0.01 to 2%. The P-feldspar and hornblende phenocrysts are frequently broken, while the K-feldspar megacrysts are usually quite euhedral. In the 1550N drill section most of the porphyritic andesite occurs in the upper half of P86-01, from 2765E to 2775E, where it constitutes approximately 65% of the rock. This contrasts with only 20% for the whole section. The topography of the L1550N drill section is relatively steep and in places step-like, due to a series of sub-parallel troughs and ridges. They generally trend 040°-065°, in response to the differential weathering of the more resistant porphyritic andesites in contrast to the more recessive andesite flows and tuffs; and in response to steeply dipping shear and fault zones, which vary in width from <1 m to > 10 m. The porphyritic andesite intrusions were likely emplaced along zones of structural weakness paralleling the present 040°-065° orientations. Intrusion of the porphyries would have produced some of the zones of shearing and brecciation common along many of their contacts. However, subsequent repeated structural movement along the zones likely accounts for the majority of brecciation, re-brecciation, shearing and veining along the contacts, within the porphyry, and crosscutting the porphyry/andesite contacts.

Younger granodiorite (Hyder) dykes also intrude the Simcoe area in places. A major Hyder dyke occurs along South Fletcher Creek. It is 20-50 m wide, > 900 m long, and trends 135° across the map area. This 135° orientation is a typical orientation of Hyder Dykes on the Silbak Premier property.

2. Alteration and Mineralization

Alteration at Simcoe varies from moderate to very intense. Where intensely developed it usually occurs in structurally prepared area containing shears, faults, breccia zones and veins, and along or near the contacts between andesite and intrusive porphyries. Disseminated to pervasive alteration is also common, but is usually most intense near intrusions.

Alteration minerals, listed in approximate order of abundance are as follows: carbonate, <u>sericite</u>, quartz, chlorite, and pyrite. The 100 m x 125 m L1550N area between 2675E - 2800E is the most intensely altered area exposed at Simcoe. Refer to Figure 5. The alteration consists predominantly of carbonate-sericite-pyrite, with disseminated pyrite averaging 5-15% in many locations. Quartz abundance varies from weak to moderate, to occasionally intense. Locally the alteration and associated structure is very similar to that occurring at the Glory Hole at Silbak Premier. However, in general, it is more calcareous and sericitic, less siliceous, and somewhat less structurally prepared (especially less

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re-brecciated) than the ore zones of the Glory Hole area. This Simcoe alteration is more comparable to zones bordering or immediately on strike of the Glory Hole. It suggests potential for Glory Hole ore zone type of alteration (and mineralization) immediately down-dip or along strike from the L1550N, 2675E - 2800E follow-up area.

Mineralization and alteration are closely interrelated at Simcoe and most everywhere else on the Silbak Premier property. Usually the most intensely altered rocks, especially those most intensely silicified and re-brecciated, are also those most well mineralized. Most of the Simcoe mineralization defined to date is relatively weak and occurs as fine disseminations, narrow discontinuous veins, and breccia infillings. Sulphides hosting or associated with Au and Ag include sphalerite, galena, tetrahedrite and pyrite.

Analytical values associated with sampling of the trenches are listed on Figure 5. The most encouraging values defined are as follows:

Sample No.	Width	<u>Au (oz/t)</u>	Ag (oz/t)
35561	2 m	0.004	2.05
35501-35504	8 m	0.010	2.63
35539-35541	6 т	0.021	4.46
35524-35526	3 m	0.014	2.05

Select grab samples from these zones returned the following values:

Sample No.	<u>Au (oz/t)</u>	<u>Ag (oz/t)</u>
16854	0.017	5.34
16856	0.072	7.78
16865	0.020	6.13
16866	0.012	59.63
16867	0.009	10.86

Diamond drillhole P86.CH.O1 tested the L1550, 2675E - 2800E follow-up area. The drilling returned the following intersections, which represent the down-dip projection of mineralization exposed at surface by trenching.

