

DATE: September 2, 1988
TO: I. Pirie, D. Blackadar
FROM: M. Mills, S. Lear
SUBJECT: SBS2 Grid Geology

INTRODUCTION

A cut grid totalling 34.5 line-km was established in July 1988 approximately 4.5 km south of Skwaam Bay on claims SBS3 and SBS5. The grid was designed to cover a weakly mineralized skarn horizon outlined during the 1987 reconnaissance mapping program.

The 1988 program consisted of geological mapping, a geochemical soil survey, and a VLF and magnetometer geophysical survey.

GEOLOGY

The grid area was mapped by M. Mills and S. Lear at a scale of 1:2500. Outcrop exposure is good in the southern-central area of the grid, but is poor in low-lying areas to the west and east.

Lithology

The eastern margin of the grid consists of a medium to coarse grained diorite/quartz diorite. Quartz veining is common throughout. The diorite forms a prominent knob in the northern part of the grid.

Adjoining the diorite is a 100 to 400m wide intermediate volcanic unit, dacitic in composition. This unit is fine-grained, well foliated and has moderate, pervasive siderite alteration.

To the west is a package of bedded mafic tuffs with minor flows. South of line 87N, interbeds of siltstone and chert are common. A skarn assemblage of weak to moderate diopside +/- bintite hornfelsing occurs at scattered locals. Occasional light brown actinolite bands were also noted. Previous mapping described minor garnet occurrences, but no garnets were observed in the 1988 mapping program. Bright green fushite mineralization was reported from two localities.

A 250 to 300m wide sediment unit occurs west of the mafic tuff/sediment package. This unit is predominately black argillite with lesser amounts of siltstone and chert. It is well exposed near the baseline on lines 78 to 86N, but only two outcrops were mapped north of line 86.

West of the sediments is a poorly exposed unit of mafic tuff with minor argillite. The tuff displays moderate carbonate alteration.

Mineralization

Trace to 2% pyrite and pyrrhotite occur at irregular intervals in the mafic tuff/sediment unit. Mineralization is accompanied by strong limonite staining on the weathered surface.

The most significant mineralization on the grid is in float of

skarnified mafic tuff observed on lines 84 to 86 at 103+50 to 105E. Up to 4% chalcopyrite with trace to 3% pyrrhotite and pyrite was noted. No outcrop exposure was found.

Structure

The stratigraphy strikes at approximately 140 degrees. Bedding attitudes in the mafic tuff strike from 110 to 150 degrees, with dips of 35 to 80 degrees NW (most commonly 50). Foliations in the intermediate volcanics are similar.

Small scale folding observed in the sediment units suggests that the package is strongly deformed. Isoclinal, axial planar folds were observed trending towards 100 degrees.

GEOCHEMISTRY

Litho geochemistry

A total of 122 samples were collected during the mapping program. Samples of volcanic or intrusive rocks (96 samples) were analyzed at Min-En Labs for Al₂O₃, Ba, MgO, MnO₂, Fe₂O₃, CaO, K₂O, Na₂O, SiO₂, TiO₂, Bi, Cu, Pb, Zn, Ag, Au, Sr, Zr, As, Sb, P₂O₅, S. The remaining 26 samples were of sediments or mineralized volcanics and were analyzed for Bi, Cu, Pb, Zn, Ag, Au, As, Sb.

Fe₂O₃ and CaO values are elevated in the mafic tuff/sediment package. CaO has a maximum of 18.5% and several clusters of values above 10% were observed. The histogram plot of CaO (Appendix ___) shows a bimodal distribution. Fe₂O₃ has a maximum of 23.6% with 30% of samples above 10%. Anomalous Fe₂O₃ zones occur mostly in the central and northern areas. These correlate with CaO anomalies although Fe₂O₃ anomalies are generally smaller in extent.

Bismuth was requested for analysis as this has been associated with high gold values on adjacent properties. Bismuth has a strong bimodal distribution. As with CaO and Fe₂O₃, anomalous zones occur mainly in the mafic tuff/sediment package. Bismuth correlates well with CaO.

Gold values are low, with a mean of 5ppb and a maximum of 25ppb.

The highest copper values (>120ppm) are found in mineralized float from lines 83 to 86N, 102+50 to 105+50E. Trace to 5% chalcopyrite was noted in these samples.

Soil Geochemistry

Soil samples were collected at 25m intervals over the entire grid. Samples were analyzed for Bi, Cu, Pb, Zn, Ag, As, Sb, Au. A total of ___ samples were collected.

Results awaited.

GEOPHYSICS

A VLF-EM and Magnetometer survey was completed by Quest Canada Exploration Services. Two stations - Cutler, Maine and Seattle were monitored during the VLF-EM survey, however due to problems originating with the latter station, Hawaii was monitored for a portion of the survey.

The VLF-EM conductors generally parallel the strike of the major units, with some indication of a weak offset at 45 degrees to strike.

Magnetometer highs occur as scattered locations along the mafic tuff/sediment package and are confined the that unit.

July 6/88 update

SBS

- total budget 50,000 incl \$5000 (\approx 117 units)
- priority is Au skarn; if any money left, re-establish lines \approx 75-78 which were obliterated by slash burning
 - + do max min + mapping on these lines
 - (lines 72-78 need max min)
- Au skarn - do standard package / Bi instead of Ba. (ICP)
 - also Bi in soils.

June 10/88

SBS - REVISED WORK PLAN & BUDGET ESTIMATE.

LINECUTTING	2.7 km @ 450	\$ 1215	
	31.1 km @ 300	\$ 9330	
			10,545
GEOLOGY	1 man-month	4000	
	food & accom. 30 days @ \$35	1050	
	truck	1200	6250
GEOPHYSICS	3 km @ \$180		
	(Mag, 2stn VLF)		540
GEOCHEM	1240 soils @ \$10.50	13020	
	100 lithos @ \$21	2100	
	1/4 man months @ \$3000	3750	
	food & accom 35 days @ \$35	1225	20095
MISC	(field supplies, claim locating, report prep drafting, computer etc)		7500
			<u>\$ 49,970</u>

Budget = \$ 100,000

∴ \$ 50,000 available for drilling in the fall

(500m @ \$100/m).

- litho's - as normal but substitute Bi for Ba.
- linecutting proposed will cover projection of stam on SBS S
- precise claim boundaries should be established early.
- complete soil coverage with Au + Bi, Cu, Pb, Zn, Ag, As, Sb package
- thorough mapping should include selective litho sampling rather than blanket coverage
- Mag-VLF should work well (little overburden)
- leaves us 3 or 4 drillholes in the fall.