

Two samples of banded ash flow tuff from a road exposure north of line 152N, 2600'W contained veins of magnetite-hematite-pyrite and fracture coatings of malchite and gave significant Cu assays (Table 10). Eastoe (1981) interpreted the hornfelsic appearance of the tuffs as being due to a nearby hidden intrusive which would have been the heat source for the hydrothermal solutions which produced the mineralisation.

Other rock chip samples from the Western Pyrite Zone on line 136N and the Eastern Pyrite Zone on lines 144N, 184N, 200N and 240N did not return significant assays. Several of these samples were fire assayed for Ag-Au but these results and those for the LS8 drill core indicate that the pyrite zones are not prospective for economic mineralisation.

4. Stream Sediments

17 stream sediment samples were assayed by three methods:

- (i) -80# perchloric acid-nitric acid total digestion
- (ii) -80# 0.5N hydrochloric acid cold extraction
- (iii) -10# + 80# hydroxylamine -HCl Mn and Fe-oxide digestion

Cu, Pb, Zn, Mn, Fe and Co were assayed by AAS at Mt. Lyell for each method. Results are given in Figure 26.

Sample 27362 from line 168N, 1180 mE, which assayed 500 ppm Pb (-80# Tx), contained a high proportion of Mn and Fe-oxides which probably scavenged the Pb. Other samples from the same drainage system gave only background values.

The only sample draining the Mt. Selina Geochemical Anomaly Zone (27353, line 104N, 250 mE) gave a slightly above background Pb assay for -80# Tx and a high Pb assay for -10# + 80# Hx-HCl, but Mn assays were also high.

2.2.5 Geophysics

1. Gradient Array I.P.

The northern grid extension (lines 192N-248N) was covered by two blocks of gradient array I.P. (Table 11, Figures 27 and 28). The survey was carried out by Scintrex Pty. Ltd. in November-December 1981, using Scintrex IPR-8 receivers. Dipole spacing and station interval were both 20 m.

The Eastern Pyrite Zone chargeability anomaly, S2, was found to continue north from line 184N, 450 mE, to line 248N, 090 mW, although it was considerably weaker on line 248N than on the other lines. The anomaly was widest on lines 208N and 200N, 140 m and 135 m wide respectively, but narrowed to around 80 m on lines 216N to 240N. Chargeability values were around 65-90 mV/V for lines 192N-216N, 45-55 mV/V for lines 224N-240N and about 30 mV/V for 248N. Apparent resistivities were usually between 1000-4000 ohm metres with a minimum value of 763 ohm metres on line 240N.

Lower Cambrian black shales produced moderate to weak chargeability anomalies (S4) with corresponding resistivity lows, less than 1000 ohm metres with minimums of 11 ohm metres on lines 200N and 208N.