

Table 1

Average abundance levels for selected rocks (after Levinson, 1974)

| | <u>Ultramafic</u> | <u>Mafic</u> | <u>Shale</u> |
|----|-------------------|--------------|--------------|
| Cu | 10 | 100 | 50 |
| Pb | 0.1 | 5 | 20 |
| Zn | 50 | 100 | 100 |
| As | 1 | 2 | 15 |
| Sn | 0.5 | 1 | 4 |
| Ni | 2000 | 150 | 70 |

Tin

Values for much of the area are low, and over parts of the serpentinised ultramafic, below detection level (2 ppm). However anomalous results were obtained on or close to the position of the Ring River Fault and in the vicinity of the basalt/polymict breccia contact on line 2100N. In the former case, values of 65 ppm (2300N 500E) and 170 ppm (2400N 3480E) occur on the Ring River Fault close to the mapped position of quartz-tourmaline bearing granitoid rocks.

Anomalous tin values are located also on or near the upper contact of the mafic lavas. The highest soil geochemical sample is 170 ppm reflecting possibly hydrothermal alteration within the more porous breccias.

Copper

High background copper values are characteristic of the basalt/dolerite complex and these values have tended to mask possible anomalous values associated with these rocks. As with tin an anomalous value of 215 ppm occurs near the eastern margin of the basalt/dolerite complex on line 2100N. Anomalous values also occur in sediments on the western flank of the Serpentine Hill Complex (110 and 410 ppm, Line 2600N) or on the postulated position of the Ring River Fault (Line 2300N and 2900N).

Zinc

Soil values for zinc prove to be unusually high over the Serpentine Hill Complex. These high Zn values possibly reflect high initial Zn contents within the pyroxene silicate lattice. This Zn was subsequently liberated during serpentinisation and weathering. In addition, anomalous Zn values occur along parts of the Ring River Fault and possibly on the Myrtle Grove Fault (Line 2100N).

Lead

Because of the low background levels of lead in ultramafic, mafic and many sedimentary rocks the lead soil geochemistry is of particular interest. Marked geochemical anomalies occur on the Myrtle Grove Fault (Line 2100N, 2500N) and over a portion of the Ring River Fault (Line 2300N). This latter anomaly may possibly be traced north to Line 2500N