

contained various ore forming elements thus giving rise to anomalous soil geochemistry close to the fault on lines 2300 and 2500. In addition, near surface plutonic intrusions were possibly emplaced in the southern portion of GAP west in the vicinity of the Ring River road (1600m). Here the sediments appear to have been thermally metamorphosed and in part altered by hydrothermal solutions.

Post Devonian : The whole area was subsequently uplifted and subjected to erosion. During the Pleistocene, glacial and fluvioglacial debris was deposited over a wide area. Continued erosion during the Recent period has removed significant amounts of this glacial material leaving a thin veneer over portions of GAP west.

#### GEOCHEMISTRY

During this survey various rock chip samples were collected for chemical analysis, and in addition soil samples of the C horizon were obtained by hand auger. In total 155 soil samples and 9 rock chip samples were obtained and submitted for chemical analysis.

Rock Chip Geochemistry : A description of the samples, their location and their geochemical values are given in Appendix 2. The majority of samples represent floaters of ironstone collected over the ultramafics. These samples are all characterised by moderately high Zn levels (120-280 ppm) which are believed to reflect the unusually high background zinc values for the ultramafic body as a whole. One manganese-rich ironstone sample (T8610, 2500N 00E) is of note however. This specimen is characterised not only by unusually high Zn (675 ppm) but also anomalous Cu (235 ppm) and Pb (40 ppm). Moreover the location of this sample close to the mapped position of the Myrtle Grove Fault on line 2500N coupled with anomalous soil geochemistry in the elements As, Sn, Zn, Pb and Cu suggest that this sample may reflect hydrothermal mineralisation emplaced along the Myrtle Grove Fault.

Geochemical values for altered samples collected on or near the Ring River Fault, namely a carbonated serpentinite (T8606) and two quartz-tourmaline bearing plutonic rocks (T8664, T8665) gave low values for the elements analysed. However for the serpentinite sample, Zn was usually high (120 ppm). Levinson (1974) gives the average Sn content for ultramafic rocks to be 50 ppm. A partially hornfelsed and altered sediment (T9006) from the Myrtle Grove Road has anomalous geochemistry in As, Cu, Pb, Zn. This area could represent the root region of shallowly buried plutonic rocks.

Soil Geochemistry : During this survey 155 soil samples were obtained from the newly cut lines by hand auger at spacings of approximately 20m. Where possible C horizon samples were collected; however over parts of the ultramafic rocks and glacial deposits skeletal soils occur with no horizon development. Clay based soils occur over the mafic lavas and sediments.

The values of the soil sampling programme are presented in plan form (TAS/2/2105-2110) and on corresponding profiles. The recognition of significant soil geochemical anomalies has been hindered by the contrasting background geochemical values for the various rock types found in the area. World average abundance values for various rock types given by Levinson (1974) are as follows:-